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in-depth review &
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Network secrets
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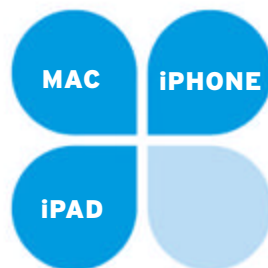


Attack of the clones:
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PLUS!
DEFINITIVE
LONG-TERM
APPLE WATCH
REVIEW

80

AMAZING WATCH TIPS

Personalize your Watch with its
powerful hidden features **p22**

Future

HOW TO:

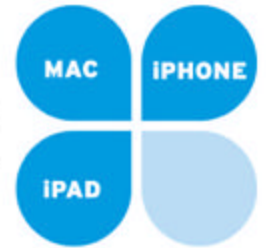
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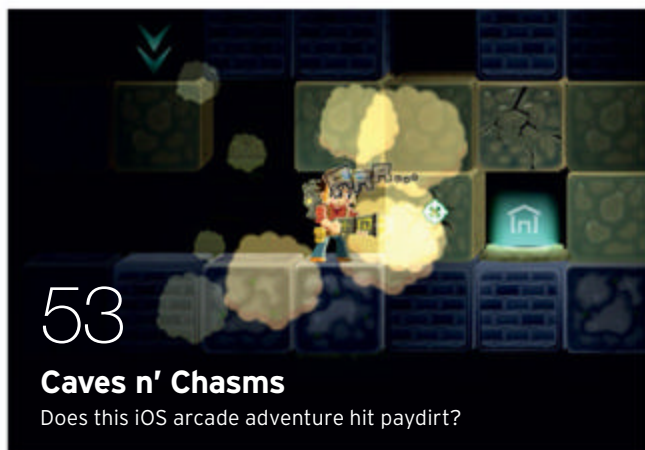
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New MacBook review

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hot (and what's not) on iTunes and whether you agree with our pick of the best new iOS games. We'll also alert you to the best Apple deals plus keep you informed and entertained until the next issue.

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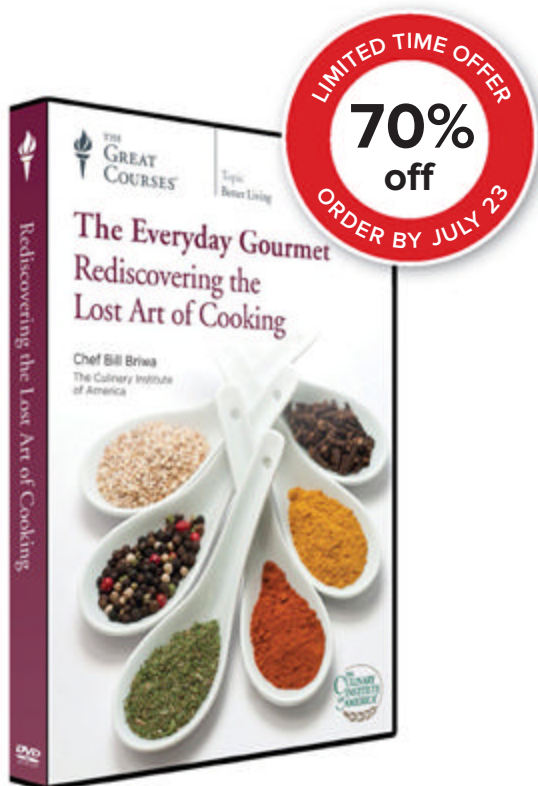
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WATCHING THE WATCH



THE APPLE WATCH has been out for a couple months now, and so far, it's a success. But what happens when supply catches up to demand? Will Apple be able to build momentum behind the device? It could be an uphill battle.

I like the Apple Watch. I've worn one since launch and have made good use of notifications and health-tracking. I don't value it as much as my other Apple devices, but I'll keep wearing it, and I hope it continues to succeed and improve. I'm not yet convinced of its long-term success, though. I go into specifics in my review (see page 56), but in a nutshell,

the watch suffers from the lack of a clear identity; a single, defining function. The commercials are a blur of features that come with any mobile device; there isn't the sense that it's the perfect solution for a need that hasn't been adequately met before. It's troubling to me that I can still question the validity of the core concept, even after fully integrating the Apple Watch into my daily life.

It's understandable that the folks at Apple might need more time to wrap their heads around such a different kind of product. While the iPhone and iPad were built on the breadth of things they could do, the size and wrist placement of the watch seriously limits the tasks it can perform well. Any app that demands more than a glance and a tap or two will be forgotten in favor of its fuller iPhone version.

So far the Watch has sold mostly on Apple's reputation and people's eagerness to get in on another transformative tech moment, but a year from now the device will really have to earn its keep. By then, will software or hardware updates have polished the initial concept into something more defined and compelling? Or maybe the Watch will mirror the low-key success of the Apple TV with steady support from a small but significant user base. Would that be enough? Will the Watch be crushed under its own hype if it fails to succeed at the level of a Next Big Thing? I look forward to seeing it all unfold...

CHRIS SLATE, Editor-in-Chief
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>>> THE TEAM



Matt Bolton
Editor

Matt's after a Smart Kettle. Intelligently boiled water = a more intelligent Matt...



Mat Gartside
Art Editor

Mat's fussy about who he lets in - his dream gadget is a digital lock for his door.



Jo Mernbery
Operations Editor

For Jo's complete smart home? An intelligent wine cooler. And cocktail maker.

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LETTER OF THE MONTH



I'm not sure that the answer to the letter "Temperamental printing" (*Mac|Life* #101, page 84) was fully correct. I had an identical problem with two printers on my network suddenly not working, but after some troubleshooting, I got everything back to normal. The problems started about the time of the upgrade to OS X 10.10.2. One night while trying (and failing) to print some documents for my wife, in frustration I got out her MacBook Pro, opened the documents from Dropbox, and started printing with no problems. The MacBook Pro was connected to the network via Wi-Fi, so I connected the iMac to the network via Wi-Fi and had no more problems.

I changed out the Ethernet cable from the iMac to the Time Capsule with no joy. I tried another cable and the problem seemed to be solved, but that was also the day I did the update to 10.10.3. I checked the printer files, and it shows the drivers for both printers were updated with the update to 10.10.3, so it looks like Apple may have fixed the problem with the update. **LONNIE SCHMITT**

Thanks for sharing, Lonnie! Hopefully this will help anyone who's still stuck with what seems to be a fairly common problem.

Your reaction to the Apple Watch

The release of the Apple Watch was a major milestone - Apple's first wholly new product since the original iPad five years ago - and many of you had lots to say on the subject. We found your comments fascinating, so this month, the floor is yours!



What do you make of the Watch...?

The Watch is personal in the sense that each person will use the subset of features that benefits them. In three weeks of wearing mine, I've learned one or more new valuable features, or *applications* of features, each day. The result has been an increase in productivity and convenience, as the Watch has handled well over 50% of what

I previously used my iPhone for.
APPLE1T

The Watch is really great for e-mail. You get the little preview, then you can decide if the message is important enough to get out the phone. It saves me time!
TRICIA LOUIS

It's excellent. Apple Pay is great to use at the store, and Siri seems more responsive and precise than on the iPhone. The Watch needs more faces, though. I've only had mine for a few days so I'm still fine-tuning everything.
LARRY DEMASI

I would be happy to tell you what I think if Apple would finally send me



So, do you need "a remote for your phone?"

the damn thing! I ordered one the moment the Apple store made it available, and still nothing...

TOM BARCLAY

I don't think I'll be getting rid of my Swiss watch anytime soon!
SHAKSHI GOPAL

It takes a while to learn everything; I'm still figuring out something new each day.
CASSANDRA RASHAD

I love mine! It really comes in handy; it's like a remote for your phone. It also makes you more aware of your notifications without being invasive or annoying.
NADINE CORELLA

I'm excited about the Apple Watch but I might wait for the next version, when new battery technology and after-market products from the likes of LunaTik may make it a more viable proposition.
ANDRE BROOK

I love mine; I use it all day, every day. If you say you have no use for it, you have no use for a cell phone either, and should just go back to your typewriter.
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For trustworthy reviews of original apps, turn to p48

Imitation doesn't feel much like flattery to many developers.

The App Store fakers

Lurking in the App Store are countless apps comprising stolen assets, trying to trick users into buying them

BY CRAIG GRANNELL

IN RECENT YEARS, corners of the App Store have become shady... Rather than striving for innovation and quality, certain developers resort to trickery, stealing icons, names, artwork, descriptions and even the codebase of entire apps or games, and then try to make a fast buck. A common tactic is to essentially rip off a popular app or game, and use a similar name, with examples over the years including Tiny Birds, Numbers With

Friends, and Temple Jump. More cunning developers simply add “+,” “Plus,” or “Pro” to a popular name.

The most brazen fakers go further, literally stealing content. Game creator Frank Condello (chaoticbox.com) recalls he'd had music stolen in the past, but when SHREDD (then called dEXTRIS) hit the App Store top 10, all bets were off: “Clones stole artwork, music, sound effects, and even my app's name and description. I fully expected this in

a post-Flappy Bird App Store, but that didn't make it any less frustrating.”

You can even find people using existing apps to set up cloning factory lines of sorts. “After I released Shoot The Moon, I stumbled on a YouTube video promoting the sale of source code for a similar game,” says Shaun Coleman (pipsqueakgames.com). “They openly presented it as such, showing my game's App Store listing, commenting on the high user ratings.”

UNSURPRISINGLY, DEVELOPERS are frustrated, on behalf of consumers and their community. “There’s confusion for sure, especially when a cloner sticks a “2” or “pro” on the end of your app’s name and rips off your art,” says Condello. “I’ve even had hilariously angry emails about my “rubbish Android port,” despite never making an Android app.” The impact is palpable in other areas, too. “Clones and fakes don’t heavily impact our business, but are an encouragement to the dev community to steal,” suggests Remzi Şenel, “chaos monkey” at Gram Games (gram.gs), adding that copies are usually poorly made, without the awareness of crucial design decisions. Screeny developer Sonaal Bangera (screenyapp.com) says his team works “really hard to stand out from the crowd” and so when someone comes in and “uses your design style, name and even App Store description to make a quick buck, it’s disheartening.”

Avenues do exist for responding to fake apps, but whether it’s worth going after fakers isn’t totally clear.

“If they’re using your assets, lodge a claim for copyright infringement. Otherwise, you’re better off putting your time and energy into your next thing,” says Coleman.

THIS LINE BETWEEN inspiration and rip-off is something several devs seem keen to explore. “We actually love it when we see our games inspiring other developers to create twists on their gameplay or art style. It’s only obvious clones that might push us towards legal action,” says Semyon Voinov, creative director at Cut The Rope developer ZeptoLab (zeptolab.com), adding that all developers learn from each other, and therefore “being overprotective can actually harm the community – and your reputation”.

Canabalt creator Adam Saltsman (adamatomic.com) recalls incidents with his game that sit on each side of the line: “Robot Unicorn Attack was clearly

inspired by Canabalt, but the creator emailed me and asked if it was cool to riff on my game. I thought the end result was great. But I also had my supposed Android/PSP porting partner release I Must Run, which remains the only part of Canabalt’s legacy that still sometimes makes my skin itch.”

Kurt Bieg’s take is rather more philosophical: he believes people should stop fretting about any kind of copying. The Simple Machine (simplemachine.co) founder argues “the idea of possessing an object doesn’t translate to the digital world,” and that on releasing a creation, you’re “agreeing to an implicit cultural rule: that it now belongs to the internet”.



Some developers simply append a number to an app name to more obviously ride on the original’s coat-tails

He also thinks terminology has become hypocritical, used to garner “victim” attention, but only when convenient. He reasons recent indie smash Crossy Road isn’t considered a Frogger clone because the dev team “changed it enough”, but 2048 was slammed for cloning Threes!, despite the fact players will “tell you they’re fundamentally different.”

For this reason, after releasing word-game LEX, which Bieg believes was “ripe for cloning,” Simple Machine took a different approach, open-sourcing aspects, to “support the idea

of opening creativity and inspiring others.” He adds: “If someone takes our products and makes them better, then that makes us better,” which is preferable from when the company more fully believed in the idea of ownership and “felt like we were waiting for someone to do us wrong.”

Given such diverse opinions, it’s no surprise developers are split on whether Apple should do more to help. “Apple doesn’t research whether an app is a clone, and that’s not its duty anyway – it’s up to developers to monitor the App Store and protect our properties,” argues Voinov. Şenel largely agrees: “The issue of fakery and cloning is tricky, especially when the lines are so blurry. Given the circumstances, I think Apple’s doing the best it can for all parties.”

Others disagree. Saltsman believes developers who’ve had apps repeatedly cloned should “not be shuffled off to the same, largely ineffective copyright report system,” and suggests an expedited process for clearly blatant infringement. Condello goes further, complaining that Apple’s takedown process is a “horrid mess,” which takes weeks to merely get an email from Apple to developer and infringer alike, “asking them to work it out.” Occasionally, this scares an infringer into compliance, but “most know exactly what they’re doing and ignore the emails.” He adds that a SHREDD clone that ripped off his game’s audio and music remained on sale for seven months, in part because the infringer remained silent.

However, Coleman offers a final word – and warning – for anyone hoping Apple goes further in reining in rip-offs: “Beyond copyright infringement claims is a gray area, and if Apple rejected apps based on the similarity of ideas alone, that would be chilling and detrimental. Still, if Apple does start to reject more egregious fakery cases, I won’t be complaining. Who would, apart from the cloners?”

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This is a card battle game, a little like Hearthstone, but where positioning is everything. Each turn, you can either add new units to a grid, or move your current ones forward and attack with them. You damage your opponent just by getting your troops far up the field. It's buggy, but very clever, with big potential.

VERSION TESTED: 2.36971.LMS



ROBOCRAFT **FREE**

Build a vehicle out of blocks, add weapons and extra gadgets, then take it into a battle arena and shoot the hell out of other people's creations! Extra options can be bought as you progress, enabling crazier machines.

Vehicles blast into their component pieces satisfyingly – it's good, destructive fun.

VERSION TESTED: 0.9.1021



The surprisingly water-resistant Apple Watch

Apple's wearable proves to be more waterproof than expected in tests **BY JAMES ROGERSON & MATT BOLTON**

WITH A WATERPROOF rating of IPX7, the Apple Watch can definitely survive a splash or two, but Apple has warned against considering it fully waterproof (the IPX7 rating means it's safe up to a meter in depth for up to 30 minutes). However, sports and adventure blogger Ray Maker (dcrainmaker.com) decided to put his Watch Sport to the test and take it for a 1,000m swim over the course of about 20 minutes, and it survived no problem – though that's roughly in line with what its

waterproofing rating suggests, the constant movement of lane swimming does make it a tough test. He also took the Watch for a couple of high dives, which it also survived.

The really interesting test was when he placed it in a waterproofing test chamber, which can simulate the pressure of water at much deeper levels. He tested the Watch Sport down to 40 meters... and it survived without any obvious issues. That's a big improvement over what its rating, and Apple's advice, suggests.

That's not to say you should start using the Watch as a swimming aid, though – both its heart rate and motion tracking don't work well in the water, and we don't know that every Watch model will necessarily be exactly as waterproof as Maker's. But it does confirm that you really don't need to worry about those times when you absent-mindedly reach into the bath with it on, or even if you were to drop it in the sink. Hey, it might even survive a round in your washing machine.

>THE SHIFT

The internet of things is growing rapidly around the iPhone, but **DAVID CHARTIER** worries that security is being forgotten in the rush



REMEMBER WHAT YOUR gadget life was like before you had an iPhone? You probably had a (digital) camera, maybe a portable music player, and possibly even a GPS. Today, you have a singular iPhone and I bet you can't imagine going back...

The iPhone saved us quite a bit of gadget room in our pockets and bags, yet now it has spawned entire industries that are gadget-izing everything you could imagine. The only catch is, we would all be better off if many of these companies looked back once in a while.

You can now buy "smart" door locks that tie into your home network and automatically unlock once you get close enough (well, once your iPhone gets close enough). You can even unlock them from thousands of miles away over the internet, if you need to.

Of course, you've probably seen all the drones by now; small, inexpensive, iPhone-controlled flying gadgets with cameras that capture footage you probably never

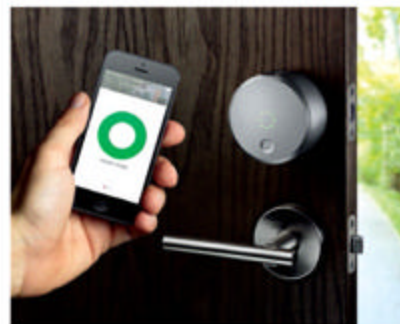
could otherwise. Then there are smart refrigerators that alert you when the milk is low or automatically order more. And how about new platforms like Arduino and Raspberry Pi – smart, modular electronics that allow anyone to prototype and build just about anything.

WE IMAGINED ALL these things long before the smartphones that inspired the iPhone were even an idea, but the iPhone is the Big Bang that gave them a place and the platform to exist. Who was going to carry around 15 different remotes, one for their drone, their smart door lock, their refrigerator, and connected, multi-colored living room light bulbs? The iPhone naturally became the universal interface and cornerstone for interacting with our new "Internet of Things."

But as the tech industry rushes into this "smart" frontier, it isn't making these devices smart enough about security. According to an FTC report earlier this year, over 70 percent of these internet of things devices have "serious security vulnerabilities." A core concern is that not nearly enough companies consider security from the start, opting instead to bolt it on later in the process or even after they ship and get that first burst of attention. This thinking has always plagued the

tech industry, and we still don't have a cure. Early computers didn't secure our data very well, and early internet services sent our credentials and other sensitive data in plain text for far too long.

Smartphones had their own glaring security stumbles too, but now as the cycle repeats itself, it means someone could unlock our



A smart lock maker might understand deadbolts, but what if they're not as hot on encryption best practices?

homes or "brainwash" our cars with a cheap hacking tool and malicious software.

I don't bring up these cautionary tales to scare you away from the internet of things, as I am writing them under dimmed Hue smart bulbs and I have a Safari tab open to shopping for a smart door lock. But as we build the internet of things, these companies need to account for the security of things.

The iPhone is the Big Bang that gave "smart tech" the platform to exist

>>> David Chartier is a content strategist and writer with vast experience analyzing the tech world. He runs the website *Finer Things in Tech* (finerthings.in) and hosts its podcast, The Finer Things In.

6 Watches That Cost More Than Apple Watch Edition

\$10,000 is nothing - these are the watches that really set you back

BY MATT BOLTON



Can't afford space tourism? Wear some moon dust instead with the Moon Orbiter Speed Metal.



No longer the sands of time, now it's the liquid flow of time with HYT's H2 Titanium watch.

MADE IN HIGH-QUALITY gold and rose gold, the Watch Edition models are Apple's first foray into real luxury fashion goods. The price is enough to make you spit your coffee all over whoever just told you about it for most of us, but for hardcore watch aficionados, it's nothing special. They're more concerned about its lack of hand-crafted pieces for that price compared to other watches, rather than the simple number of dollars. Once you get into watches with hundreds of tiny mechanical components, made of materials that put mere gold to shame, you find that \$10,000 is just the start. Here are six of these that caught the eye of us at *MacLife*, from the standard but finely finished to the beautiful and bizarre.

1 Cabestan Winch Tourbillon Vertical

This amazing piece is designed to let you see all of its mechanical finery by arranging its parts vertically instead of flat. It costs \$275,000.

2 Jaeger-LeCoultre Hybris Mechanica à Grande Sonnerie

This is one of the most complex watches ever made, costing \$1.4m. For

that, you get the longest chime sequence of any watch that chimes. So that's cool.

3 Hublot Classic Fusion Tourbillon Vitrail

Inspired by the colors and spindly nature of stained-glass window designs, this piece uses precisely cut advanced glass to offer a unique splash of color across its face for your \$109,000.

4 Rolex Submariner Date White Gold

A classic for over 60 years, worn by James Bond, the Submariner is... well, "timeless" is maybe a poor choice of word, but you get the idea. This version in white gold is a mere \$20,000.

5 HYT H2 Titanium Black DLC

HYT launched the world's first hydro-mechanical watch, and the H2 is its successor. Instead

of an hour hand, liquid flows flows in a circle through the watch's numbers. It's a striking design - as you'd want for \$129,000.

6 Romain-Jerome Moon Orbiter Speed Metal

With an unusual rectangular shape, made with parts of Apollo 11's space craft, and with a dial that contains actual moon dust, this is nothing if not a conversation starter. This piece of space history costs \$133,000 - if you can find one.

This Hublot watch displays its mechanics on a background of stained glass.



>GAME LOOP

Watch out... Despite the buzz, **BRIANNA WU** says the first wave of Apple Watch games will only give you a disappointing time



JUDGING THE WAVE of Apple Watch games, they have a long way to go before they're fun – or even worthy of a passing grade. I know it's a critical statement, but it's true one.

There's a central question any Apple Watch game needs to solve: why is this a better experience than my iPhone, which I already have with me? Unfortunately, none of the games I've seen so far has an answer.

Runeblade, a painfully generic RPG that was featured by Apple, is a fantastic example of the biggest problem facing most Apple Watch games – there simply aren't meaningful game mechanics. In Runeblade, the gameplay has been simplified to the point of requiring no real strategy. Push a button, fight creatures, level your weapons, repeat, beat a boss.

IF THAT DOESN'T SOUND fun, it's because it's not. But I don't blame the designers for this ultra-simplistic gameplay – because I don't see how you could input something more strategic.

So far, Apple hasn't really given developers access to the Digital Crown in WatchKit. That leaves a tiny touchscreen for input. It's notable that most games so far only have two to three buttons and some scrolling.

Universally, the games on Apple Watch are very slow. They're slow to launch, they're slow to load between sections. Now that experienced iOS developers have their hands on the hardware, they're learning that many routine actions require several seconds to communicate with your iPhone. It's brutal, and it breaks immersion.

YOU CAN TELL there are creative professionals out there doing their best with imperfect tools. But, it turns out, with limited input, graphics, sound, and game

Imagine trying to read a book that slams shut every minute



mechanics, there's actually not much for a game developer to work with.

The best Apple Watch game so far is Lifeline, a story-based game where you are trying to rescue an astronaut trapped in space. The gameplay works well in this format. The Digital Crown lets you scroll through text, and the gameplay is limited to tapping dialogue choices. But the experience of playing on Apple Watch is annoying at best.

Lengthy scrolling on Apple Watch is uncomfortable while lying or sitting. But the real problem is the display constantly shutting off to save battery. Imagine trying to read a book, and it slamming itself shut every minute or two. Nihilistically, installing the game on Apple Watch makes it accessible on your iPhone, which is a prettier, more immersive experience. I kept asking myself why I was bothering to play it on my watch?

APPLE WATCH is an amazing device for a lot of things. It's the best fitness gadget I've ever owned. It helps me be more present in the moment, confidently leaving my phone in my bag. It's a device that is worthy of Apple's name, but the limitations that make it good at everything else make it a bad device for gaming. Sorry, but the princess is in another castle.

>>> Brianna Wu is the head of development at Giant Spacekat, developer of Revolution 60 on iPhone and iPad, and is a regular speaker at industry events, as well as host on the podcasts Isometric and Rocket.

CRAVE

THE GEAR WE'RE LUSTING AFTER



1 **Lily**
lily.camera
\$999

>>> Lily is one of those “Okay, *now* we’re living in the future” moments. It’s a quadcopter drone with a 1080p camera that follows you, filming. You just throw it (literally) in the air, it rights itself, then floats along videoing you. It’s partly following a tracking device that you wear, but it also has some visual recognition capabilities. It has different filming “modes,” such as purely following, or things like circling around you, and is even waterproof. We’ve seen some amazing footage of it following snowboarders and mountain bikers, though the 20-minute battery life is a bit of a shame.

2 **Nonda Hub+**

nonda.co
\$99

>>> This Kickstarter was funded within nine hours of its launch, and it's easy to see why. It's a multi-port hub that's perfect for the new MacBook, offering two USB-C ports, an SDXC card reader, a mini DisplayPort video out (capable of 4K) and three standard USB-A ports. It's also tiny, comes in three aluminum finishes to match the MacBook's color ways, and has a built-in battery, so you can charge an iPhone from it in emergencies. It's due at the end of summer (which is why it didn't make it into our MacBook accessories round-up on page 69).



3 **Tesla Powerwall**

teslamotors.com
From \$3,000

>>> Tesla brings its famous battery technology from cars to the home. These hefty lithium ion batteries are designed to make you less reliant on peak-hours grid electricity, especially if you have solar panels. Most energy use is in the morning or evenings, but most solar energy is gained during the day. The Powerwall can store it in the daytime, then let you use it in the evening. Or you can even just use it to store electricity from the grid at night, when it's cheaper, and use it at peak. There are two models: one for daily use, and another that acts as a backup in case of power outages.



4 **LifeProof FRE Power**

lifeproof.com
\$130

>>> This might be the ideal iPhone 6 case for your vacation. LifeProof's cases are just about as rugged as they come, keeping out snow, dust and dirt, and totally waterproof down to two meters for an hour. It can survive a drop of two meters, too. But this is what LifeProof's cases have always done - what's new is that it also has a built-in battery, capable of doubling the iPhone's battery life, making it great for long trips when you'll be using GPS a lot - or just for emergencies.



\$50 iTunes Card

How would you blow 50 bucks on music, movies, books, TV shows, and apps?

BY MATT BOLTON



1

KINGSMAN: THE SECRET SERVICE

Colin Firth, Samuel L Jackson, Taron Egerton
\$14.99

Director Matthew Vaughn's aim with this suave spy film was to emulate the likes of *The Prisoner* or the Roger Moore-era Bonds - a time of gentlemanly espionage, where a villain's demise arrived in an immaculate suit armed with improbable gadgets. Vaughn's take is more bloody than the films and shows it's inspired by, but is lots of fun, and filled with cool performances. Newcomer Egerton is great as a rough recruit learning to be a gentleman, while Colin Firth's role smartly plays on the actor's meek, calm image before letting him loose in brutal, spectacular fights.

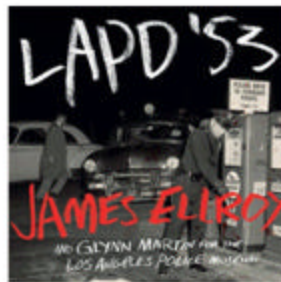


2

DARTH VADER

Kieron Gillen,
Salvador Larocca
\$4.99 for issue #1

Available as an In-App Purchase through the Marvel Comics app, this comic series tells the story of Darth Vader between the original *Star Wars* and *The Empire Strikes Back*. Vader finds himself under closer scrutiny in the Empire after his failure to protect the Death Star, but at the same time intends to secretly investigate who the mysterious Force-strong pilot he encountered there really is. Following Vader as he brandishes his own special brand of subtle investigations (read: much slicing and choking) across the galaxy is great, as are the supporting cast, including a murderous mirror of R2-D2 and C-3PO.



3

LAPD '53

James Ellroy & Los Angeles Police Museum
\$11.99

This fascinating non-fiction book lets Ellroy, the old-school LAPD's biggest fan and writer of *L.A. Confidential* and *The Black Dahlia*, dive into crime scene and investigation photos taken from '53 and weave narratives to illuminate what was the most famous police department in the world, thanks to its ties with Hollywood. The book collects over 80 amazing photos of police working in the city - it's easy to forget you're not looking at the modern recreations we're so used to. Some might find the crime scene images uncomfortable or upsetting, but they make for an incredible collection.



4

WHY MAKE SENSE?

Hot Chip
\$11.99

The new album from this Grammy-winning electronic music group is ideal funky background to fun summer evenings and long drives with the windows open. It's maybe slightly lacking in big stand-out tracks (with the possible exception of future chill-out favorite *Need You Now*), but the mix of chunky beats and warm electronica tones are great for just throwing on when you've got a few people round.

TOTAL SPEND
\$43.96

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80



AMAZING WATCH TIPS

The ultimate guide
to getting more
from your Watch

BY LUCY HATTERSLEY
& CHRISTOPHER PHIN



WE'VE BEEN USING the Watch since its launch – you can see our in-depth, long-term verdict from our time with it on page 56 – and we've been pleasantly surprised by the depth of functionality packed into it. For the way we use it most of the time, everything's suitably simple, but there's a lot sitting just beneath the surface. The Watch is full of extra features that help it fit into your life better, though in some cases, these are hidden behind obtuse gestures and hard-to-discover settings.

We've analyzed every aspect of the Apple Watch and pored over its options to bring you this guide, which shows you the best way to get started with a new Watch before diving down into its hidden secrets.

Whether you're looking to get more from your new Watch, or thinking of getting one and want to see what it can do beyond just the most-discussed marketing points, here's everything you need to know about getting the most out of the Apple Watch.

Setting up the Apple Watch

The best way to get started with your new Apple Watch

FLIP THE APPLE Watch over and spot the two small indents next to the straps. These are the Band Release buttons: press and hold one and slide the band out sideways to remove it. If you've bought a model with a Sport Band, check in your box and you'll find another band. Try both and see which fits best.

Now lay your Apple Watch on a flat surface; this makes the iPhone sync easier. Press the side button on the Apple Watch (not the Digital Crown) to power it up and tap Start Pairing on both the Apple Watch and Apple Watch app on your iPhone.

During setup you'll be asked to set a preferred wrist for the Apple Watch. This doesn't affect the orientation of the Watch, which is set separately. Don't worry if you're unsure at this point – all these settings can be adjusted later using the Apple Watch app on your iPhone.

For security reasons, enter a passcode. The Apple Watch uses its sensors to determine when you've taken the Watch off, and only requests the passcode when it's been removed, so it doesn't really inconvenience you, plus it will stop a lost device from being used. You can also select a feature that unlocks the Apple Watch when you unlock your iPhone with Touch ID (as long as you are wearing the Apple Watch), avoiding the need to enter the passcode entirely.

The default Passcode is just four digits, but tapping Enter Long Passcode enables you to enter a 10-digit number instead if you want.

In the app setup step, we think that selecting Choose Later on the app installation screen is the best choice. The setup process is quicker, and installing every supported app you own makes the Apple Watch screen extremely busy – it's best to pick and choose.

The Apple Watch will sync with your iPhone and you can start using it as soon as the sync is complete. Strap it on, press the side button and enter your passcode. Now when you raise up the Apple Watch, the screen will spring to life and show you a watch face.

Next, you'll want to use the Apple Watch app on your iPhone to add and organize your apps – see below. This makes the Watch much easier to use. You're now ready to start using your Apple Watch!

Setting up the Home screen

>>> OPEN THE APPLE Watch app on your iPhone and scroll down to find two blocks of apps. The top section represents Apple's apps, while the lower block is packed with apps from developers. Apple Watch apps from third-party developers are part of their respective iPhone apps, rather than downloaded separately.

>>> TAP AN APP in the Apple Watch app and turn on "Show On Apple Watch" to install it. While you're here, set "Show in Glances" to On if you want to add the app to your Glances (mini app previews that appear when you slide a finger up from the bottom

of the watch face). You can have up to 20 apps in Glances.

>>> APPS ARE RE-ARRANGED (or removed) directly from the Home screen of the Apple Watch in the same way as on the iPhone. Tap and hold a third-party app icon and the apps will start jiggling. Tap and hold an app icon to grab it, and move it to a new position (it has to swap with another icon). To delete an app, tap its icon swiftly and tap Delete App.

>>> IT'S A LOT EASIER to arrange the apps using the Apple Watch app on your iPhone, though. Tap App

Layout and drag app icons around to re-arrange them (the Watch's Home screen layout refreshes as soon as the Apple Watch sleeps and wakes up). Tap "My Watch" when done.



Interacting with the Watch

All the gestures and buttons you need to know

NOTIFICATIONS

Swiping down from any watch face screen brings up Notifications. Swipe a notification to the left to see a Clear icon; tap it to remove the notification.

DEEP PRESS

The most exciting gesture uses Apple's new Force Touch technology. Essentially it's a much firmer press on the Apple Watch screen than a normal tap, and Apple calls it a "deep press." This brings up different options in each app.

GLANCES

Swiping up from the bottom of a watch face brings up Glances: brief previews of information. You can swipe left and right to move between the different Glances screens.

HOME

The Digital Crown acts as a kind of home button when you press it in. It wakes up the Apple Watch; if you're looking at the watch face, it takes you directly to the Home screen with its display of apps. If you're on the Home screen, pressing the Digital Crown takes you back to the watch face.

ROTATION

Rotating the Digital Crown zooms in and out of the Home screen or things like photos, in a similar manner to a pinch gesture on an iPhone. In other apps such as Mail, Messages and Twitter, rotating moves up and down messages and lists (replicating the up and down swipe gestures).

SIRI

Push and hold the Digital Crown to activate Siri, then say your command. Siri doesn't speak back on the Apple Watch, and will quickly vanish when you finish speaking. Press the Digital Crown again to cancel Siri. You can also just say "Hey Siri" and say your command when on the watch face screen.

FRIENDS

Pressing the side button brings up your Friends list. This is a wheel of 12 contacts that you add using the Apple Watch. Rotate the Digital Crown to select a person and tap their face to choose them.



General tips

NO IPHONE? NO PROBLEM... KIND OF

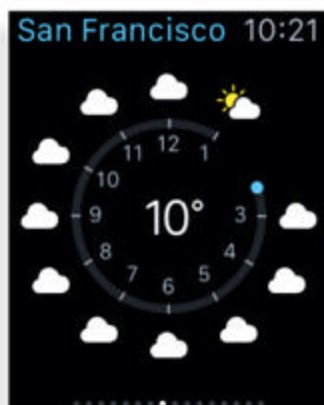
Even if you're completely out of range of your iPhone, you can still play music synced to your Watch (which is done using the Apple Watch iPhone app), use the watch, alarms, timers and stopwatch, track activity and workouts, display synced photos and use Apple Pay. If you're in range of a Wi-Fi network you've already joined on your iPhone (but out of Bluetooth range of your iPhone, or if it's switched off, say), you can still send and receive iMessages and Digital Touches, and use Siri.

AUTO-ADD APPS

Tap My Watch > General > Automatic Download and set "Automatically Download Apps" to On. Now when you install a new app with Apple Watch support, it'll automatically appear on your Home screen.

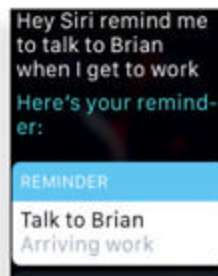
THE SETTINGS GLANCE

This is like a mini Control Center. Swipe up from the bottom of the screen to open Glances. Now swipe left-to-right until you see icons for Do Not Disturb and more.



CHANGE THE WEATHER

If you perform a deep press in the Weather app on your Watch, you can pick between three different kinds of forecast - but it's quicker just to tap the screen to cycle through them. Scroll with the Digital Crown to see a 10-day forecast.



SET REMINDERS - EVEN GEOFENCED ONES

You can't view a list of Reminders on the Watch, but you can set them using Siri - even optionally using the iPhone's ability to trigger reminders at

certain locations. For example, you might raise your wrist and say "Hey Siri, remind me to talk to Brian when I get to work," and so long as you have your work address defined in your Me card in Contacts, that's all you need to do.

STRESSED? LOOK AT SOME PICTURES OF FLUFFY KITTENS

You might not realize that Siri on your Watch can search for images online using your default search engine. Raise your wrist, say "Hey Siri, find photos of fluffy kittens" - and, aww, isn't that better? For more stuff like this, ask Siri "What kinds of things can I ask you?"

TAKE A SCREENSHOT

To save a picture of whatever's on the Apple Watch screen, hold both the Digital Crown and side button simultaneously; you'll see the screen flash and get a tap of feedback. The image is saved to the Camera Roll of the connected phone, from where it can be shared like any other photo.

DON'T FORGET ABOUT HANDOFF!

Handoff is available when using the Watch. If you get notified of an incoming email, say, and realize you need to reply to it, you might be tempted to switch your Watch back to the watch face, then pick up your iPhone, unlock it, tap on Mail, find the email and then tap to start composing your reply. It's all a bit cumbersome to say the least.

You can make this process simpler, though; look for the Mail symbol at the bottom left of the iPhone's Lock screen, and swipe it up to go straight to that email. Handoff works with Mail, Maps, Messages, Phone, Reminders, and Calendar, as well as Siri.

FIND YOUR PHONE

You might find that you sometimes misplace your iPhone. Usefully, you can ping it easily from the Settings glance, and it will make a noise even if it's muted. If you long-press (not deep press – just tap and keep your finger there) the button to find your iPhone, it will make the iPhone's flash light up too.

CHECK FOR UPDATES

One important feature found in the Apple Watch app that isn't featured on the device itself is the option for updating the software. Open the Apple Watch app and choose My Watch > General > Software Update. It'll check for new versions of the software, and automatically install any that are available.

REBOOT THE WATCH

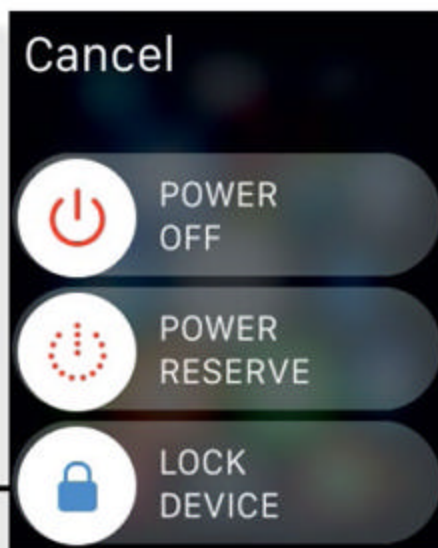
You can restart the Apple Watch by using the shut-down method to the right, then pressing the side button again to turn it on. If it crashes and you need to brute-force a reboot, press and hold both the Digital Crown and the side button for 10 seconds.

ENABLE AIRPLANE MODE

If you're flying, you may have to shut down the wireless chips in the Watch. The easiest way to do this is from the Settings glance (swipe up from the bottom of the screen from your watch face), but you can also go into the Settings app on your Watch or tell Siri to "Turn on Airplane Mode." Better still, toggling "Mirror iPhone" to On in the Airplane Mode section of the Apple Watch app on your iPhone means that if you turn on Airplane Mode on the Watch, it will also turn on in your connected iPhone.

**TURN OFF THE WATCH!**

We know that sounds pretty basic, but it might not be obvious how to actually turn the Watch off. Press and hold the side button (the one under the Digital Crown) to display sliders to turn it off, lock it, or enable Power Reserve – which switches off all functions except timekeeping, to extend the life of the battery.

**SHARE YOUR HEART BEAT**

Tap the Digital Touch display with two fingers to share your heartbeat with another person. They will see a pulsating heart graphic and get haptic feedback in time with your heart.

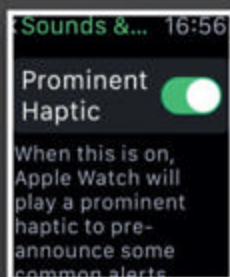
CHECK THE USAGE

Your Apple Watch only sports 8GB of onboard storage, and that might fill up quickly. You can see what is eating up all the space by tapping My Watch > General > Usage.

TOGGLE BETWEEN APPS

Double-press the Digital Crown to bounce between your last-used app and the current app – such as the watch app itself.

Customization



THE PROMINENT HAPTIC

For extra emphasis, open the Sounds & Haptics section and set “Prominent Haptic” to On. This is a more intense tap prior to an alert arriving.

CHANGING BRIGHTNESS

Tap Settings > Brightness & Text Size on your Apple Watch or in the Apple Watch App. Now use the Brightness slider to adjust the vibrancy of the display.

ADJUSTING HAPTICS

Open Settings and tap Sound & Haptics to reveal Ringer and Alert Haptics. Tap the large and small icons to adjust the intensity of the haptic nudge effect to your liking.

MAKE SWITCHES CLEARER

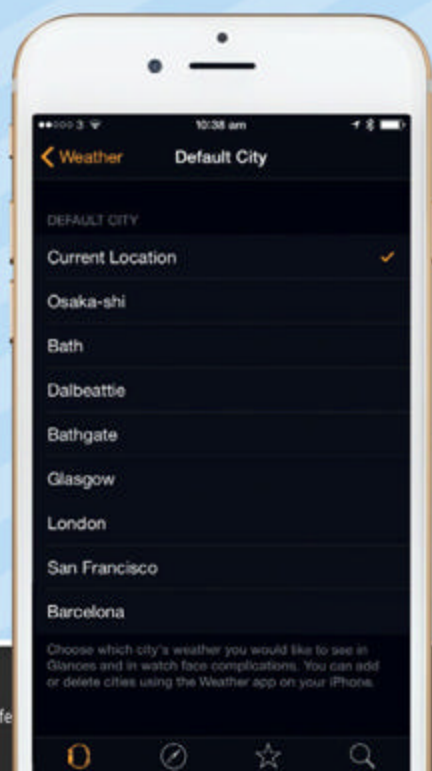
The On/Off Labels and Grayscale options in Brightness & Text Size both change the way that On/Off switches look throughout the Apple Watch.

USING ACCESSIBILITY TO ZOOM

Open Settings > General > Accessibility and turn on Zoom. Double-tap the screen with two fingers to zoom in to the text.

PERSONALIZE CITY ABBREVIATIONS

The Watch picks up cities worldwide for different time zones from your Clock app on the iPhone. If, for example, you have a friend who lives in a town not officially listed as an option for its time zone, you can pick the nearest one then change the abbreviation for it when it's viewed on compatible watch faces. For example, if you have a friend in Mashpee, MA, you could pick Boston as the time zone, but change how it's displayed on your watch to “MSH” - do this in the Clock section of the Apple Watch app on your iPhone.



CHANGE THE DEFAULT CITY FOR WEATHER

Some watch faces let you show the current temperature, and by default it's set to show the temperature wherever you are. If you'd rather always have it set to a specific location - say, where you live rather than where you work - you can change it in the Weather section of the Apple Watch app on your iPhone. (In addition, you can define the list of cities you pick from using the Weather app on your iPhone.)

SET YOUR WATCH FAST ON PURPOSE

If you're in the habit of purposely setting your watch fast so you're not late for meetings, you can do the same by going to Settings > Time on your Watch and then applying whatever manual adjustment you like. Alerts and notifications still come in at the correct time, though; all you're doing is changing the time that's displayed on the watch face.

WRIST RAISE**FUNCTION**

Tap My Watch > General > Activate on Wrist Raise and choose between "Show Watch Face" or "Resume Previous Activity" to change this behavior.

ADJUST TEXT SIZE

Open Settings > Brightness & Text Size and use the Text Size slider to adjust the text size setting. It works in some apps such as Mail and Twitter, but sadly not in all of them.

ADD A MONOGRAM

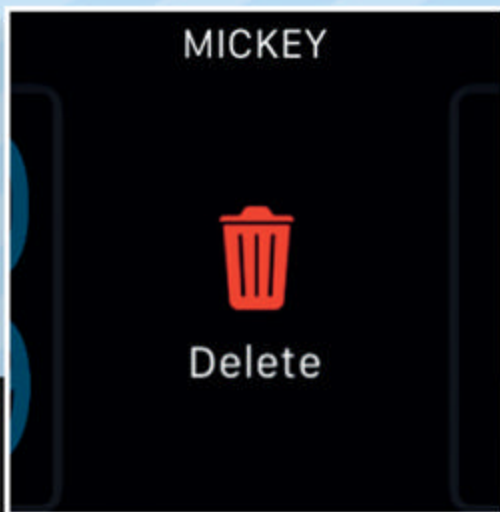
You can add any initials to the Apple Watch face. Open the Apple Watch app, select "My Watch" and then "Clock." Change the default initials by tapping the monogram option and typing.

USING BOLD TEXT

Below Text Size is a Bold Text option. You need to restart the Apple Watch to activate this. Turn on the option and tap Continue to restart the Apple Watch with bolder text - you might prefer the look.

**PICK YOUR OWN COLOR FOR SKETCHES**

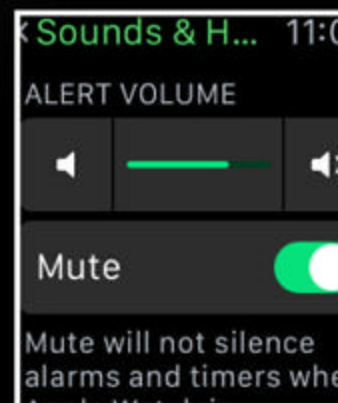
Tapping the colored dot at the top right of the screen when sending sketches using Digital Touch opens up a palette of seven colors for you to choose from, but you're not limited to just those colors. Pressing firmly brings up a color wheel from which you can pick your own!

**DELETE WATCH FACES**

Too classy for Mickey? Swipe him up in the watch face-picking menu and you can banish him. Just tap the + button at the end to bring him back, though. (You can also use that + button to add as many custom variants as you like, even of the same face.)

ADJUST THE SOUNDS

Open Settings > Sounds & Haptics. Use the Ringer and Alert Sounds to adjust the volume on your Apple Watch, or set Mute to On to put the phone in quiet mode. (Unlike Do Not Disturb, you still get a haptic buzz for notifications.)



CLEAR ALL NOTIFICATIONS

When viewing your notifications (by swiping down from the watch face), you can clear them all at once by doing a deep press on the screen then tapping Clear All. You can clear individual ones by swiping right-to-left on them.

GET MORE PRIVACY

While the Apple Watch screen is fairly private, security-conscious people might want to remove any actual text from alerts. Turn on Notification Privacy and you see only the type of alert and the person it's from; when you tap it you'll see the details.

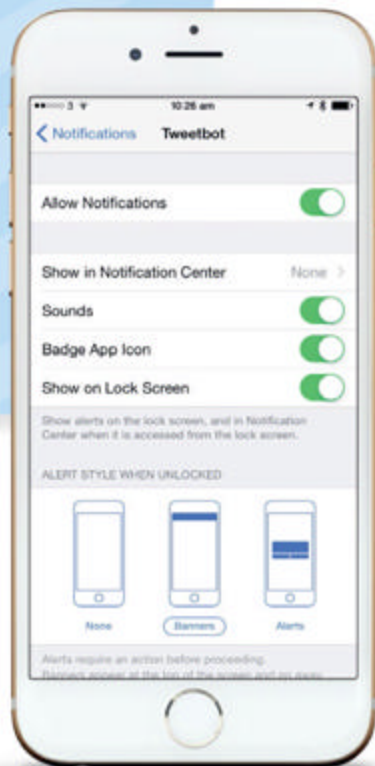
CUSTOM NOTIFICATION SETTINGS

Tap Custom to set specific notification settings for each app. Three options are available: Show Alerts, Sound and Haptic (the buzz effect). Settings "Show Alerts" to Off turns off alerts for that app, while turning off Sound or Haptic prevents that style of alert. Some apps have more complex Notifications, such as Activity, which presents separate notifications for Stand, Progress, Goal, Achievements and Summary. If you get sick of your Apple Watch telling you to stand up and move around, you can turn that off.

Notifications

GET A TAP FOR NOTIFICATIONS

It's not entirely obvious, but the thing that governs whether a notification you've configured to appear on your Watch actually does the "tap on the wrist" thing or not is whether you've allowed its parent app to use the Sounds notification type in the main Settings app on your phone. You can, optionally, globally turn off sounds on your Watch (just relying on haptic feedback), and even if you allow Sounds in the iPhone's Settings, you won't hear anything if you're wearing your Watch - unless you're also actively using the iPhone.



EASILY MUTE NOTIFICATIONS

You can mute notifications using Do Not Disturb or by tapping mute in Settings or in the Settings glance. But if, for example, you've forgotten to silence your Watch and are somewhere such as a meeting or cinema when an incoming call or other notification is inconvenient, simply cover the Watch's screen with your palm for at least three seconds. You'll feel a tap to confirm that it's now muted. You can unmute from the Settings glance.

NOTIFICATION CONTROL

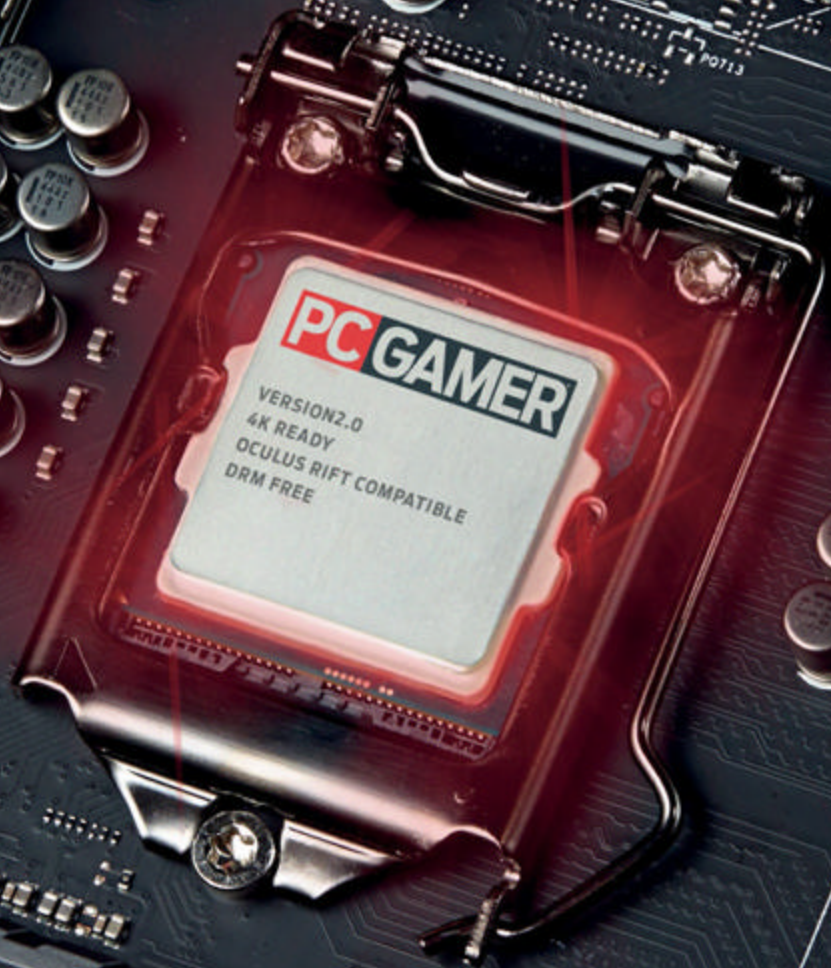
Having all of your notifications coming through to the Watch can be too much. You can calm things down using the Apple Watch iPhone app. Tap Notifications to view the settings for each app. Each is different, but most include two options: Mirror my iPhone (the default) and Custom. If you select Mirror my iPhone the options from the iPhone appear below, and are adjusted using Settings on your iPhone (Settings > Notifications).

GET RID OF THE RED DOT

If you miss a notification, a red dot appears at the top of the Apple Watch screen, which stays there until you view the notifications by swiping down from the top of the screen. Set Notifications Indicator to Off in Settings if you find this feature annoying.

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Directions & travel

USE YOUR IPHONE TO SEARCH

When you search for an address on your iPhone it is added to the Recents list, which can be viewed on the Apple Watch. Search for a location on your iPhone and switch to Maps on the Apple Watch. Perform a deep press and tap Search, then scroll down to find the Recents list.

TRAVEL THE WORLD - OR EVEN THE WHOLE SOLAR SYSTEM - FROM YOUR WRIST

If you've chosen the Astronomy face, spin the Digital Crown to whirl the sun around the Earth (well, obviously it's the other way round, but you get the idea), showing day and night moving across the Earth's face. You can also drag the globe around to explore it. Now try the same thing with the moon and the more zoomed-out map of the solar system.



SIRI GO HOME

Make sure Siri knows your work and home addresses. Open Contacts on your iPhone and check that the Home and Work address fields are filled out. Now tap Settings > General > Siri > My Info and choose your card from Contacts.

START GOING THE RIGHT WAY

When you use the Maps app to get directions it can be tricky to set off in the right direction. Slide to the left before starting to view the map overview; the arrow will show the direction in which you are heading.

GET THERE WITH SIRI

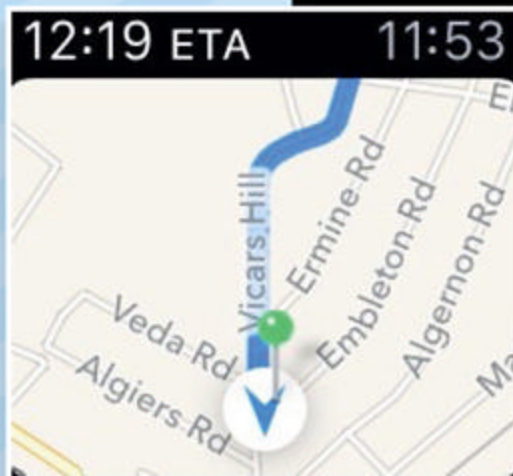
The fastest way to get somewhere is to ask Siri for directions. You can ask Siri for directions to contacts, local businesses or you can speak out an address. As long as Siri can find it in the Maps database, it'll get you there.

SHOW YOUR TICKETS

Don't forget to add any tickets you've bought to Passbook. These then appear on your Apple Watch. Open a Passbook and scroll down to reveal the information and the barcode the company will need to scan.

DROPPING PINS

You can drop a pin at any point on the map and get directions to that area. Tap and hold the screen to drop the pin (don't hold too hard or you'll perform a deep press instead). Tap the pin to select it, and scroll down to find the Directions button.



CONFIGURE YOUR OWN PRESET REPLIES

In replying to messages, you can pick from a list of canned replies set by Apple, but you can also swap Apple's suggestions for your own. Yes, there's something a bit psychopathic and robotic about typing "Okay; I'll come and pick you up!" into a list and then tapping it when your child texts to say they're done at basketball practice, say, but if you do this often, it's undeniably handy. Define your Default Replies in the Messages section of the Apple Watch app on your iPhone.

START A CALL

Set up your Friends list in the Apple Watch iPhone app; you can then press the side button, pick a friend, then tap the phone icon. To answer a call press the green icon when the call arrives.

MORE DETAILS

Use a deep press and tap Details to view information about the person who you are messaging. Tap the phone icon to quickly switch to a phone call, or scroll down to find address information.

SEE WHEN MESSAGES WERE SENT

When viewing a Messages thread on your Watch, swipe in from the right-hand edge of the screen to see when each message was sent.

CHANGE THE COLOR OF THE ANIMATED EMOJI HEARTS AND FACES

As well as seeing your most frequently used emoji from your iPhone, in replying to messages on your Watch you can pick from a selection of animated faces, hearts and hands. Deep press on the screen on the face and it changes from yellow to red (and back again with another deep press). Deep press on a heart to cycle colors.

THE PHONE'S RINGING! QUICK!

If your Watch buzzes to let you know someone's calling but you don't know where your phone is or if it's buried at the bottom of your purse, don't panic. Swipe up (or use the Digital Crown) and you'll see an Answer on iPhone option. If you tap this, the call will be "answered" for you on the iPhone, but it will just play a repeated sound to your caller until you find it and pick up the call properly.

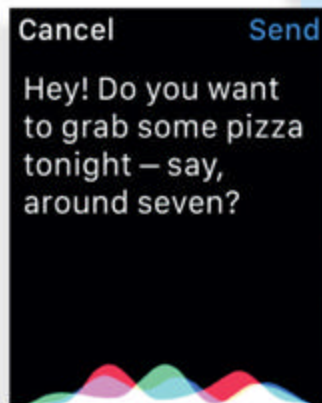
Calls and messages

CAN'T TALK RIGHT NOW?

If your phone rings and you get notified on your Watch, turn the Digital Crown to reveal more options, one of which is to Send a Message to the caller. Tap it and the call will be declined, plus an SMS from a preset list will be sent.

ALWAYS SEND AS TEXT (OR AUDIO)

When you dictate in reply to a message, you have the option of sending it as an audio clip or as text. If you only ever do one or the other, pick Always Dictation or Always Audio from the Messages section of the Apple Watch app on your iPhone.

**PUNCTUATE PROPERLY USING TEXT DICTATION FEATURES**

If you're dictating text to the Apple Watch (or to your iPhone), you don't have to send badly punctuated lower-case streams of consciousness; if you want to add punctuation, just say it. If you say "Hey exclamation mark do you want to grab some pizza tonight dash say comma around seven question mark" then you'll get "Hey! Do you want to grab some pizza tonight – say, around seven?"

Note that Siri will capitalize sentences automatically, and even capitalize common names and place names, but you can also manually capitalize letters or whole words. For example "Sure semi-colon I all caps love pizza exclamation mark maybe we could try cap north cap beach cap pizza question mark" will give you "Sure; I LOVE pizza! Maybe we could try North Beach Pizza?" There's more too.

Apple, strangely, doesn't seem to list all the options itself officially, but the folks at Siri User Guide have collected a huge range of tips at siriusguide.com/siri-dictation-guide.

Health & fitness

CHECKING PACE AND HEART RATE

In the Workout app, while doing a running workout, slide to the left to switch to calories burned and heart rate; slide to the right to see your pace, elapsed time, and End/Pause options.

FIND YOUR HEART RATE

Open Glances and swipe right (by default) to find the heart-rate monitor. This enables you to quickly measure your heartbeat even if you aren't in the middle of exercising.

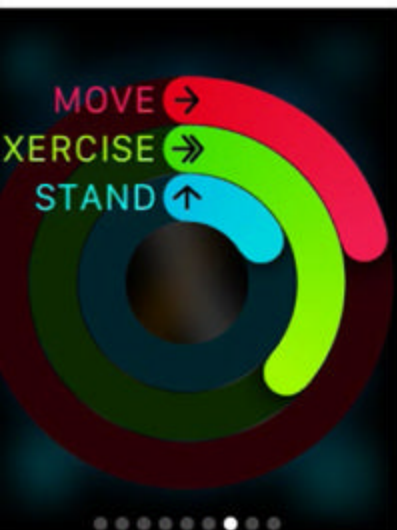
This Week's Goal
You can adjust your daily Move goal below.

— 550 +

ADJUSTING MOVE GOALS

The medium amount is 550 calories. You can adjust it by opening Activity and

performing a deep press. Tap Change Move Goal and use the plus and minus icons to adjust the value.



UNDERSTANDING ACTIVITY RINGS

Swipe up from the bottom of the screen to open Glances, and swipe to view the Activity rings. There are three rings, colored red, green and blue. Red shows how many calories you've burned towards your daily total, green shows brisk activity, while blue tracks when you stand up.

ADD AN ACTIVITY COMPLICATION

You can add an Activity complication (an icon, basically) to most Apple Watch faces. This small graphic displays how well you are doing towards your daily goals every time you glance at the watch. All three rings are the same color, though, so you'll have to remember which is which.

ACTIVITY IN DETAIL

Open the Activity app and you can view each of the three fitness areas in detail - one screen per area. There's information on exactly what you've done so far, and you can swipe down on any section to view a graph displaying how much you did in each hour of the day towards your particular total.

APPLE TV REMOTE

The Remote app can be used to connect to an Apple TV. This enables you to play, pause and skip tracks. However, you can also use the Remote app to control the Apple TV cursor. Swipe up, down, left and right on the Remote app to control the Apple TV and use the Menu and Play/Pause icons to control playback.

**USE THE SIDE BUTTON AS YOUR SHUTTER**

You don't even have to look at the Watch's screen when you're using it as a remote shutter for your camera. Pressing the side button takes the shot for you, so you could, for example, hold it in your pocket and snap a casual selfie, or hold it behind someone's back in a group photo so you can easily trigger the camera surreptitiously.

Remote control

ITUNES CONTROL

You can control iTunes on your Apple Mac directly from the Apple Watch. Open iTunes on your Mac and choose File > Home Sharing > Turn On Home Sharing. You'll need to enter the same Apple ID and Password that you are using on

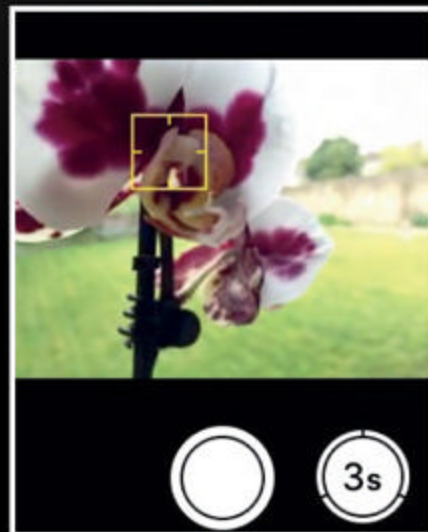
your Apple Watch. Tap Remote on your Apple Watch and the iTunes Library should appear. If not, tap Add Library and enter the digits displayed on the Apple Watch into iTunes on your Mac. You can now play, pause and skip iTunes tracks from your Apple Watch.

USE THE CAMERA REMOTE FOR MORE THAN SELFIES

You can use your iPhone and Watch together like a high-tech periscope! Trying to read a serial number in an awkward place? Launch the Camera Remote app on your Watch and point the iPhone's camera where you need to see.

YOU CAN CHOOSE WHAT TO FOCUS ON IN THE CAMERA REMOTE APP

It's obvious once you know it, but you might not realize you can tap on the little live preview of your iPhone camera's view in the Camera Remote app on your Watch to define what in the frame it should focus on and expose for, just as you would on the iPhone.



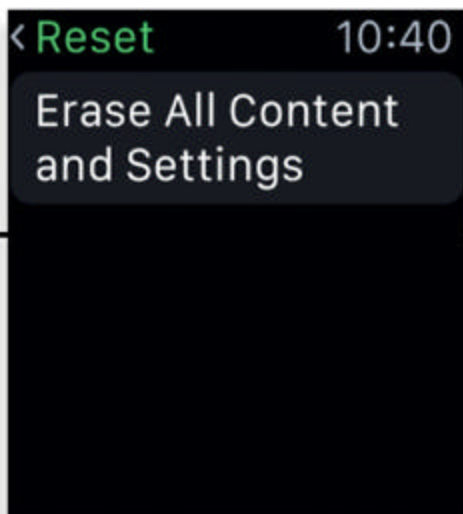
Security

REMOVE YOUR APPLE PAY CARDS IF YOU HAPPEN TO LOSE YOUR WATCH

As an extra precaution, if you have Apple Pay enabled on your Watch and you lose it or it's stolen, sign into iCloud.com, go to Settings > My Devices, pick the Watch and click Remove All.

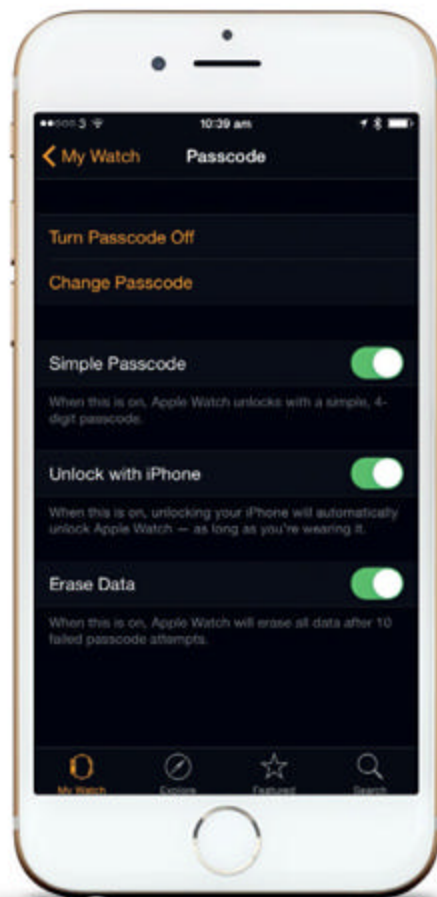
WIPING YOUR WATCH

If you decide to sell or pass on your Watch, you'll want to wipe all its data. Before you do, make sure you tap Unpair in the Apple Watch app, which will ensure you have an up-to-date backup of the Watch stored on your phone, then open the Settings app on your Watch, then navigate to General > Reset and tap Erase All Content and Settings.



PROTECT THE DATA ON THE APPLE WATCH

Though it's usually attached to you, there's still a chance of losing or forgetting your Watch. If you're particularly concerned about protecting the data that's on it - especially your Apple Pay cards if you've enabled that feature - make sure you add a passcode at setup, which Apple suggests making different to the one on your iPhone. Also enable the option in the Apple Watch app on your iPhone that will erase the contents of your Watch if the wrong passcode is entered 10 times.



BACKING UP

We're all familiar with how to back up our iPhones to iTunes or, more commonly these days, to iCloud - but what about the Watch? If, heaven forbid, you lose your Watch, have you lost all your settings? No; turns out, your Watch is constantly backing up to your iPhone, so if you *do* lose it, then you should be prompted to restore from that backup during the pairing process for a new Watch. (These backups on your phone are themselves backed up as usual to iCloud or iTunes whenever your iPhone backs up.)

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NETWORKING

SECRETS

REVEALED

BY
KENNY
HEMPHILL

NETWORKS MIGHT SEEM COMPLEX, BUT THE FIXES FOR POOR RANGE AND CONNECTIONS ARE OFTEN SIMPLE. HERE'S HOW TO KEEP YOURS FAST

Whether you're streaming music from Spotify, listening to the radio online, or watching movies on Netflix, we rely on having a speedy and stable connection to the internet. Most of the time we don't even think about it – online content has become as easily accessible as that stored locally. Until, that is, things go wrong.

If your Wi-Fi network stumbles and fails, it's a frustrating and, if you rely on it for work, potentially costly experience.

The good news is that there's a lot you can do to improve the performance of your Wi-Fi network, and mitigate the risk of things going down.

One step you can take which can significantly improve your network is to upgrade your router, particularly if it's a few years old. Recent developments, such as dual-band models using the 5GHz spectrum and 802.11ac technology mean that modern routers have a number of weapons at their disposal when it comes to squeezing as much data as possible, as fast as possible, between your internet connection and the device you're using.

Over the following pages we'll explain exactly how you can make the biggest improvements to your Wi-Fi

network, and we'll show you exactly what to look for if you decide to upgrade your router. We'll cover all those new technologies in detail and explain which ones matter and which you don't need to worry too much about. And, of course, we'll help you troubleshoot the network problems we all encounter from time to time.

If even an upgraded router won't give you the wireless range you need, we'll show you how to extend your network, or help it reach the parts Wi-Fi can't, using the cables that carry electrical power around your home or office.

Welcome to the total home networking guide!

1 ROAMING NETWORKS

Struggling to get a good signal when you're far away from the router? A roaming network that links several routers together could help – your Apple devices simply join the one with the best signal.

2 POWERLINE

Get to hard-to-reach areas with a powerline kit/wireless booster. Hook up one adapter to the network, then plug another into a power socket near your internet devices.

3 BRIDGED NETWORKS

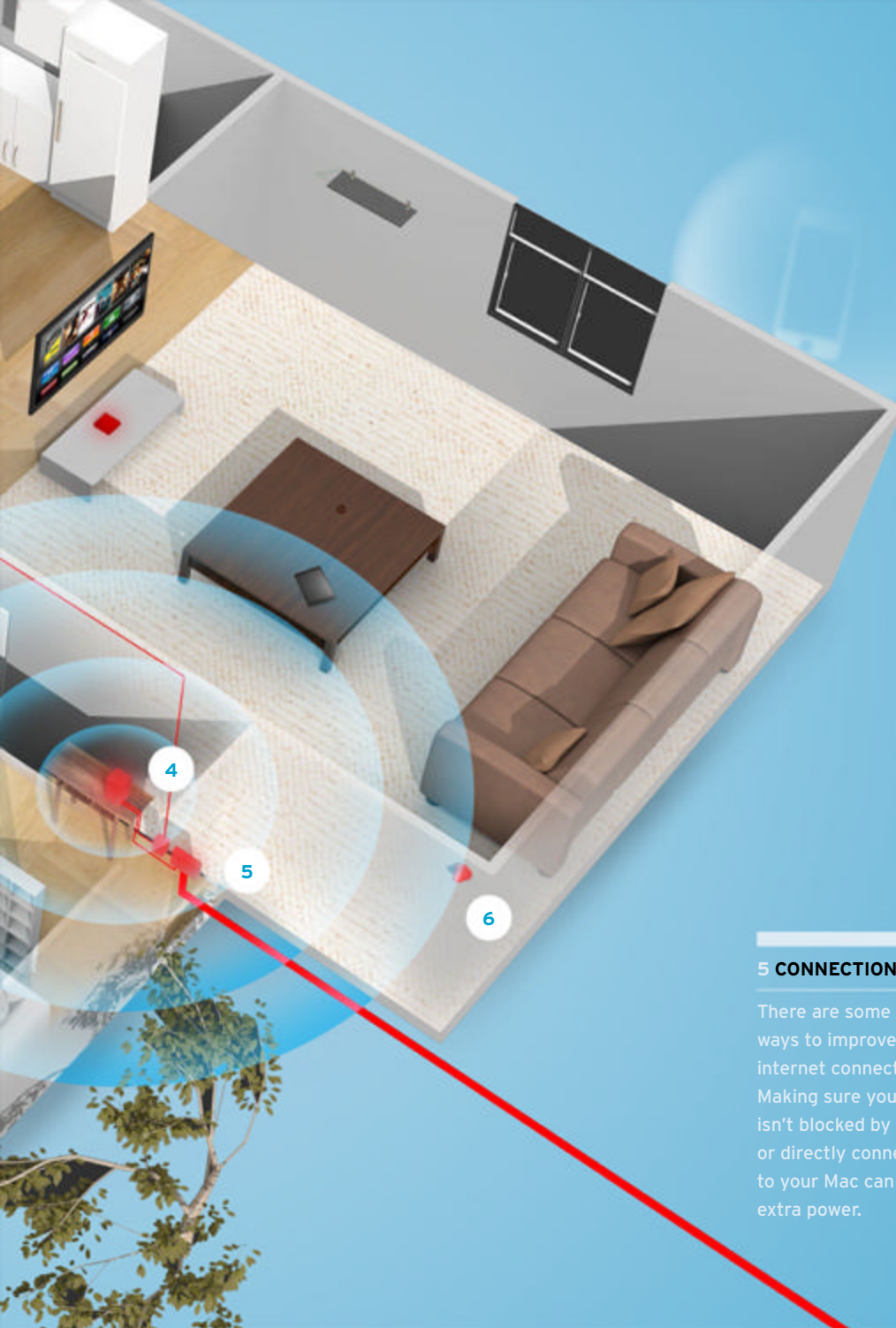
Connecting wired-only devices like your TV or set-top box to a wireless network can be a pain, but there is a solution – a bridged network sorts this by joining up two wired networks over Wi-Fi.

HOW DOES THE INTERNET GET TO ME?

Most of us never think about what goes on behind the scenes when we log on

WHEN YOU ACCESS a website, your Mac, iPhone, or iPad sends the request in the form of a web address to a Domain Name Server (DNS), which then translates the “http://xxxxxxx” into an IP address and forwards it to the relevant server. The server then displays the page you’ve requested in your browser.

Domain Name Servers are specified by your ISP during setup, but you can bypass them and use any DNS you want, such as Google’s name servers or those



4 ROUTER OPTIONS

Choosing the right router is vital if you want to optimize your home's network. In 2015, any candidate should support 802.11ac wireless protocol and have plenty of Ethernet ports.

5 CONNECTION TIPS

There are some simple ways to improve your internet connection. Making sure your router isn't blocked by furniture or directly connecting it to your Mac can give you extra power.

6 IP CAMERAS

These gadgets can be a useful way to keep an eye on things both inside the house and out. Connect them to the Wi-Fi network to view footage on your Mac, iPhone or iPad.

operated by OpenDNS. In order for any of that to happen, however, data has to be transmitted between your device, your ISP, and the wider internet.

The data sent between your router/modem and your ISP travels on either copper wire also used for the telephone system, optical cable or (more likely) both over the course of its journey. On both copper and optical connections, transmission relies on the detection of changes in energy. On a copper

connection, that energy is in the form of an electromagnetic wave traveling along the wire. In an optical cable, the energy is sent as pulses of light; one pulse is one bit, no pulse is zero.

Fiber optic cables have a much higher bandwidth than copper, and therefore are able to carry data at much higher speeds – hence the difference in the rate of transmission between fiber optic broadband speeds and those of a copper broadband connection.

HOW TO CHOOSE A ROUTER

Which wireless router is right for your setup?

THE FIRST PORT of call for many Mac users when choosing a wireless router is Apple's AirPort Extreme. And with very good reason: it's an excellent router. It supports the latest 802.11ac wireless protocol, with its theoretical maximum throughput of 1300Mbps, and it has beamforming technology, which focuses the signal from the router to your device, meaning you should always get the strongest possible signal. The other reason you should consider an AirPort Extreme, or a Time Capsule, is that you can be confident of compatibility with all your Apple devices. While that should be the case with other routers too, WDS (wireless distribution system) implementation varies between vendors, and having your router and devices from a single vendor is likely to be the best bet for total stability.

A FIXED CONNECTION TO YOUR ROUTER WILL ALWAYS BE FASTER AND MORE STABLE

If your budget won't stretch to AirPort Extreme and you don't need the additional Ethernet ports, consider AirPort Express. You can plug its WAN port into an Ethernet port on your ISP's modem and use it to create a wireless network. Be aware, though that it's a slower wireless technology than the AirPort Extreme – 802.11n instead of 802.11ac.

If you need additional Ethernet ports, or just don't want an Apple router, there are plenty of other choices. Those with external antennae are generally more able to maintain a strong signal than those which keep them inside the case, but they're unsightly, so you might not want one in the living room.

Other features to look for include WPS (wireless protected setup), which allows you to connect devices like printers at the press of a button; the ability to connect a hard drive and make it available on the network; the ability to create a guest network; and, most importantly of all, support for WPA2 security.

Time Capsule looks great, backs up your Macs, is one of the fastest routers out there, and offers a good range of ports.



WI-FI MYTHS

1 HIDING YOUR NETWORK'S SSID WILL HELP PROTECT YOU FROM BEING HACKED

It's true that telling your router not to broadcast its SSID will make it "invisible" to the average user scanning for nearby networks. It won't protect it from hackers, though. The SSID, while not broadcast, still shows up in data packets, probe requests and responses. Any hacker who's interested can use specialist software tools to scan for hidden networks. Guess which networks are more interesting to hackers: those which broadcast their SSID, or those which make a point of keeping it hidden?

2 FILTERING NETWORK ACCESS BY MAC ADDRESS WILL ALSO HELP PROTECT AGAINST HACKERS

Allowing only devices with MAC addresses you specify will deter only the most casual of hackers. Anyone armed with a network-sniffing tool will be able to see devices connected to your network and their MAC

addresses. From there it's a very easy job to "spoof" an allowed MAC address and gain entry to the network.

3 WI-FI SIGNALS CAN CAUSE HEADACHES AND OTHER AILMENTS

Several years ago, stories in the national press claimed 2-5% of the population suffered from "electrosensitivity," and that signals from Wi-Fi networks caused those people to suffer headaches and other symptoms.

But there is no medically recognized condition called electrosensitivity. Wi-Fi signals operate on a small, very crowded part of the electromagnetic spectrum. In tests, supposed sufferers were unable to identify whether a Wi-Fi device was operating nearby, and could not distinguish between real and fake fields. Signals sent and received by Wi-Fi routers are very low energy, and there is no proof they are capable of producing the kind of biological reaction claimed by some.

> Is dual-band necessary?

DUAL-BAND ROUTERS are able to operate on both the 2.4GHz and 5GHz spectrums. Each has advantages and disadvantages. The 2.4GHz spectrum, which until around five years ago was the only option, is the faster of the two, but also the most congested. Not only do devices on 2.4GHz have to compete for bandwidth with other Wi-Fi gear, but also with Bluetooth and microwave ovens. The 5GHz spectrum is less congested, but has a shorter range.

If you're having problems maintaining a stable connection to your router, and you've eliminated other obvious causes, such as the position of the router (it should, ideally, be away from walls and other obstructions), congestion could be the problem.

Most dual-band routers can be configured in one of two ways. You can either create one network, with one SSID and one password, and allow the router to decide whether your 5GHz-capable device connects at 5GHz

or 2.4GHz, or you can create a separate network for each frequency and manually connect to whichever you choose.

In automatic mode, some routers will always put 5GHz-capable devices on the 5GHz network, keeping the 2.4GHz network for everything else. That sounds logical, but it means that newer devices, the ones which support 5GHz, will always be consigned to the shorter-range network, so if you have lots of them, performance might suffer.

SPEED UP YOUR NETWORK


There are all sorts of things that can slow down your connection. Here are a few tips on optimizing it

THE FIRST THING to check if you notice a sudden slowdown in Wi-Fi speed is that you're connected to the right network. There are so many Wi-Fi networks around, and neither OS X nor iOS is particularly good at choosing the "right" network when presented with several options. In OS X, click the Wi-Fi menu bar item and click on your network, if it doesn't have a check mark next to it. In iOS, go to Settings > Wi-Fi and tap your network's SSID if it's not connected. This can be an issue when your router also advertises itself as a hotspot – Comcast's Xfinity routers are an example of this. As well as your private network, they also broadcast a public network. Click the Wi-Fi menu bar item in OS X and you might see the SSID of your Xfinity router, as well as an "xfinitywifi" entry. The

latter is a public hotspot, but despite the fact that its coming from the same router, will usually operate at a slower speed to your private connection. If you've used an Xfinity hotspot in the past, your Mac may attempt to automatically reconnect to it. To minimize the chance of this happening, open the Network preferences pane in System Preferences,



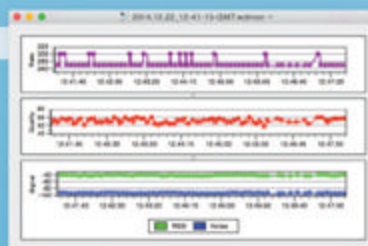
> Analyze your Wi-Fi network

THE WIRELESS Diagnostics tool built into OS X helps you analyze your network. The quickest way to access it is to -click the Wi-Fi menu in the menu bar and then click its name.

In Yosemite, click the Window menu and select Performance. In Mavericks and Mountain Lion, choose Utilities from the Window menu, and then the Performance tab (you might have to click Monitor Performance in the main dialog first).

Depending on which version of the OS you're running, you'll see one or more graphs. In Yosemite, there are three: one showing transmission rate, another displaying signal quality, and a third for signal and noise levels.

In order to get a reliable signal, you should have a signal strength somewhere between -60 and -10dBm and a noise level below -75dBm. The smaller the gap between signal and noise, the more likely the signal will



The Wireless Diagnostics tool indicates signal and noise levels in decibels. Larger negative measurements for noise are bad when it comes to network performance.

suffer from interference. It's worth keeping Wireless Diagnostics open for a few hours and checking the graphs periodically. If you identify problems, use the tips above to try and resolve them.



Repositioning the external antennas on your router, if it has any, is a simple way to improve its performance.

click Wi-Fi > Advanced, and drag your SSID to the top of the list and “xfinitywifi” (or whatever it’s named) to the bottom. In iOS, tap Settings > Wi-Fi, tap the “i” next to the public network, and slide Auto-Join to off.

One simple way to improve the speed and reliability of your wireless network is to change the position of your router. Ideally, it would be floating in the center of the room where you most often connect to it. That’s not possible, obviously, but your aim should be to get it as close to the center as you can, other considerations notwithstanding. So, on a shelf at head height is OK, but in a corner on the floor behind the couch isn’t. Try different positions and use Wireless Diagnostics (see left) to find out what difference it makes. If your router has external antennae, try repositioning those first.

If your ISP provided you with a modem router, but placement options are limited by the positioning of your cable socket, consider buying a separate wireless router and connecting it to your modem router with an Ethernet cable or using powerline adapters. You’ll need to set your new router to bridge mode to stop it handing out IP addresses, so that it acts purely as a wireless access point and allows your modem router to handle everything else.

CHOOSE A CHANNEL The wireless frequencies used for Wi-Fi are divided up into smaller “channels.” Usually, you should leave the router set to select channels automatically – it will do a pretty good job of keeping

> Roam if you want to



ROAMING NETWORKS contain two or more wireless routers that are connected using a cable – either Cat-5 Ethernet, or powerline (see over). That allows you to have a strong Wi-Fi signal at opposite ends of your house or office. You

can set it up so that you have just one network, by giving both routers the same SSID, or have two networks, and allow your Mac and iOS devices to connect automatically to the one with the strongest signal.

devices apart. If you find that the signal-to-noise ratio is poor, however, and moving the router doesn’t help, consider picking a channel manually in your router’s settings. Don’t just move to the next one, though, because the frequencies of adjacent channels overlap. In addition, your router may use frequencies from at least five channels concurrently – seven if it’s using wide channels – so you’ll need to jump at least that many to make a difference.

Some users of recent versions of OS X, as well as iOS 8, have reported problems with Wi-Fi signals that were fixed by “forcing” their Mac or iOS device to use their router’s 5GHz network. Obviously your router and your Mac, iPhone or iPad need to support 5GHz. If they do, and you experience connection dropouts or slow Wi-Fi speed, check whether your router allows you to create separate SSIDs for the 5GHz and 2.4GHz bands. Check your router’s documentation to find out how to do it. Once separated, go to your Mac’s Network preferences pane, click Wi-Fi > Advanced and drag the 5GHz network to the top of the list. On an iOS device, tap on Settings > Wi-Fi, tap the “i” next to the 2.4GHz network, and tap Forget This Network. You’ve now told your 5GHz-capable devices to join the 5GHz network, leaving the 2.4GHz network free for everything else.

CABLED CONNECTIONS If you are able, using an Ethernet connection to your router will always deliver a faster and more stable connection. This isn’t possible on an iPhone or iPad, of course, but if your Mac has an Ethernet port and it’s close enough to your router, use a cable to connect the two. Similarly, if something like a games console has an Ethernet port and is close to the router, use a cable. Powerline is useful here, too.

EXTEND YOUR WI-FI NETWORK

Wi-Fi not getting to the places you need it? Here's how to make the signal go further

There are a number of ways in which you can extend the range of your Wi-Fi network. In addition to using a second router, as described in the sections on roaming and powerline networking, you can improve the performance of your current router.

Following our tips on how to speed up your network should also help extend its range, but if that's not enough, you might want to consider a Wi-Fi repeater or extender. This is a device that sits at the outer edge of the range of your Wi-Fi network and rebroadcasts the signal, thus allowing it to carry further. These devices are relatively inexpensive, usually costing between \$40 and \$60. They do, however, have a few problems associated with them. The first is that in order to be effective, repeaters should be situated close to your router, which defeats the objective. Secondly, Wi-Fi is omnidirectional, so in addition to extending your network, the repeater broadcasts signals back towards the router, potentially interfering with the signal from the router. The third problem is that half the repeater's capacity is used to receive the signal it's rebroadcasting, severely limiting its throughput capacity.

UPGRADABLE PARTS Another option, if your router has external antennas, is to upgrade them. Companies such as Edimax, Hawking and D-Link make high-gain antennas which you can swap for the existing aerials very easily. Finally, if you would prefer a DIY solution, try making your own parabolic reflector to bounce the signal from your router in the direction of the devices connected to it. Follow the instructions here: instructables.com/id/DIY-WIFI-Antenna-Reception-Booster.

A Wi-Fi repeater is a simple way to extend your Wi-Fi range, but is not necessarily the fastest or most powerful option.

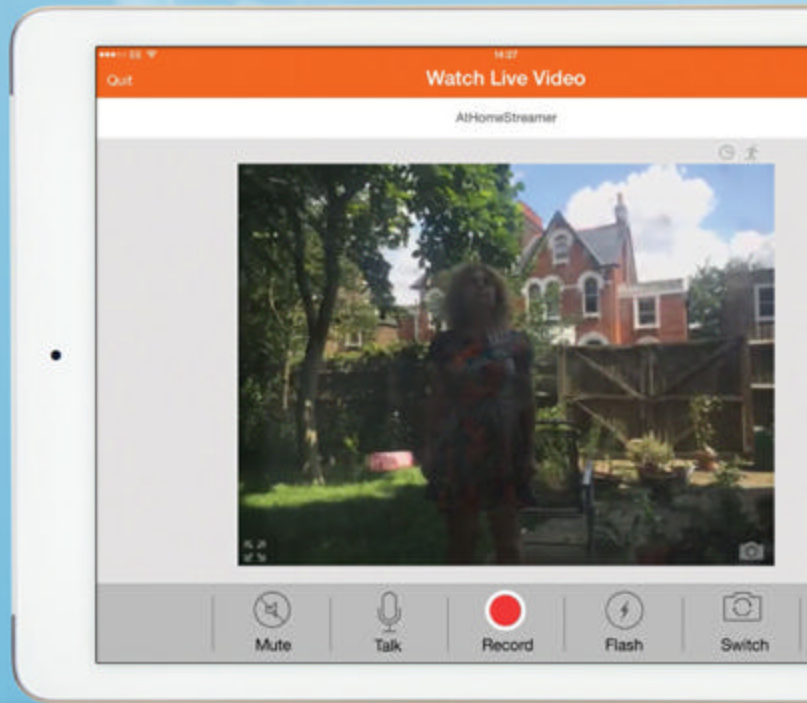


IP CAMERAS

ONE REASON TO extend your Wi-Fi network is to connect a wireless IP camera. These cameras can be used indoors and outdoors, say as a baby monitor or a security camera, connect to your network and allow you to view their feed on a Mac, iPhone, or iPad. With a little configuration, you can view the feed over the internet.

Indoor cameras start at around \$30. Those for outdoor use start at around \$50, but can run to several hundred dollars, so it's important to decide the features you need. If image quality is important, you'll want a camera with a high-definition sensor.

Other features you should look for in an outdoor camera include the distance to which its infrared lights project (for night viewing) and the degree to which it is weather-proof. Also check which Wi-Fi standards it supports, its framerate, whether it can zoom or pan, and so on.



➤ Powerline networking

POWERLINE IS A system which involves using the power cables in your home or office to carry network data. It's an excellent way of extending your Wi-Fi network, or connecting a Mac in a distant room directly to your router.

There are several different ways you can configure it. The simplest is to connect one adapter to your router and then plug it into the nearest power socket – try not to connect it to a multi-socket extension – then plug the other adapter into a power outlet next to your Mac and hook your Mac up to the powerline adapter with an Ethernet cable.

You can also buy powerline adapters with a built-in Wi-Fi hotspot to extend your Wi-Fi network wherever you have a power socket.

The third way to use powerline is to plug the second adapter into another wireless router and use that to extend your existing network, or create a second Wi-Fi network.

Nowadays 500Mbps adapters are common, and (theoretical) speeds of up to 1200Mbps are available in the latest adapters which use the HomePlug AV2 standard. This technology, which Devolo calls "range+" in its adapters, uses additional cables for extra capacity.

If you stream video, or if there are lots of people and devices using the network, you should go for the fastest speeds. If you only ever use the internet for surfing the web and email, or if you're the only one using the network, 200Mbps is fine. As with all data transmission technologies, theoretical maximum speeds are higher than the sustained speeds you'll experience in everyday use.

If you want to connect wirelessly to a powerline unit, make sure you buy a model in which one of the adapters has a Wi-Fi connection. Finally, some adapters have pass-through sockets, so you can still use the plug socket.



APP LIFE

THIS MONTH'S MOST INTERESTING IPHONE & IPAD APPS

Ruri

Turning presentations into an artform

FREE Developer Martians Talk, martiantalk.com

Platform iPad **Requirements** iOS 8 or later



Apple's iPad has become a loyal companion for on-the-go

presenters who need to show off slides to an audience in style – but not everyone requires the complexity and features offered by Keynote or PowerPoint. That's where Ruri comes in.

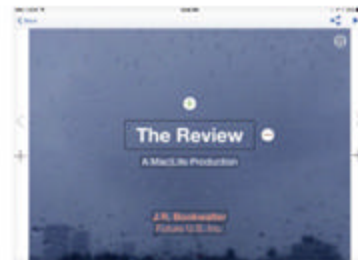
Named after the Japanese word for a semi-precious deep blue stone, this iPad app is an alternative to more popular, feature-rich presentation software favored by business and educational users. The basic premise remains the same: Choose from a number of built-in templates (including six free options like Sakura, Kanji,

and Night Café), add a title page, and flesh out the presentation with text, photos, or graphs.

Aside from a streamlined user interface, what sets Ruri apart from better-known competitors is the inclusion of animated backgrounds for each theme. For example, the Rain template features the subtle effect of raindrops falling on a darkened window, a nice touch which keeps the focus squarely on the content while making presentations more lively.

Ruri's user interface isn't quite as feature-rich as rival presentation apps, and the overly simplistic approach leaves little room for fine-tuning the content added by users. Images can be imported from the iPad's photo library and resized to some degree, but there's no way to crop pictures within that frame. Font styles are determined by the chosen template, which also dictates type size as well.

Likewise, Ruri isn't a great fit for presenters who prefer flashy transitions – all you'll get here is a basic slide-in, although pie charts and graphs first appear on screen with a neat little "sprouting" animation.



Beginners will appreciate Ruri's streamlined functionality.

We did find one odd photo quirk: some images looked fine after being imported, but appeared flipped vertically the next time the project was opened. Since Ruri lacks image tools or basic settings, we were forced to replace such images or rotate them the wrong way with another app to get them to appear correctly.

If you can live with this basic approach, Ruri does live up to its promise of producing truly beautiful presentations.

THE BOTTOM LINE. Viewed as a PowerPoint for beginners, Ruri gets the job done – but the template selection and feature set are just too basic for anything but simple presentations.

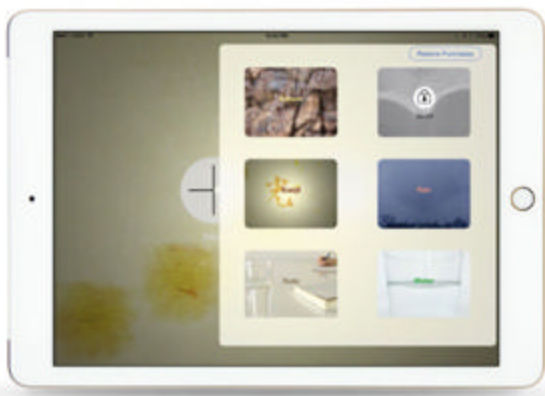
J.R. BOOKWALTER

RURI 1.9.2

- ▶ Easy-to-use iPad presentation software
- ▶ Includes several template themes with animated backgrounds
- ▶ Very limited feature set
- ▶ No manual control over image cropping, transitions, or text size

SOLID ■■■■■

Ruri relies on its templates for text style and sizing, but makes it easy to create a presentation.



Astropad

New Wacom rival or just a simple gimmick?

\$24.99 Developer Astropad, astropad.com

Platform iPad **Requirements** iOS 8 or later



Is Wacom looking over its shoulder asking who the new kid right on its heels is? Or is the race over before it has begun? Astropad offers the ability to use your iPad as a graphics tablet, so we wanted to know if it's as good as it sounds.

Before starting, you must ensure you have up-to-date operating systems on both devices. The next important thing to do is ensure your stylus is calibrated with the software. You do this via a rather smart box that prompts you to touch your stylus against the iPad. As you do so, you are told the sync is successful. There is a fair bit of tweaking required by specifying

which area of your Mac screen your iPad would use, and we also had to move around a few toolbars to ensure they fitted into the workspace.

After playing with Astropad for a while, we were struck by one recurring issue: a worrying lack of accuracy. On a number of occasions we tried to locate the brush selection palette and were met with a red cross telling us Astropad couldn't do what we were asking of it. Another issue was the redraw on the iPad – often newly-selected areas appeared pixelated and difficult to see clearly – a rather important factor when you consider the software's purpose. That said, it does have many endearing features,



Astropad has a simple pairing setup for many of the leading iPad Bluetooth styluses.

most importantly the portability factor. It's easy to forget you are using your iPad as a graphics tablet and, being gadget lovers, we were really taken with that.

THE BOTTOM LINE. Not quite on a par with the Wacom Cintiq, but it costs a lot less. Astropad is more suited to amateur artists than pro users. **JAMES ROBINSON**

SOLID ■■■■

FreakyAlarm

\$1.99 Developer Enrico Angelini, freakyalarm.com

Platform iPhone, iPod touch **Requirements** iOS 7 or later



If you treat the snooze button like a game of Whac-A-Mole each and every morning, you need FreakyAlarm to jolt your brain out of slumber with a series of logic games and annoying sounds.

To make sure you get up and at 'em, FreakyAlarm can also be configured to "check in" using a barcode or other image. For example, we took a photo of a tube of toothpaste to make sure we had to get up and walk into the bathroom and snap the toothpaste again before the alarm would shut off.

You'll need to surrender Do Not Disturb or silent mode, which isn't so great for those who receive lots of late-night notifications. It's not for everyone and we certainly grumbled a few choice words for the developer as we floundered to solve each morning's challenges, but that's the whole point.

THE BOTTOM LINE. FreakyAlarm is perfect for chronic sleepyheads – just be careful not to take your frustration out on the iPhone.

J.R. BOOKWALTER

GREAT ■■■■

SubscriptMe

FREE Developer SubscriptMe, subscript.me

Platform iPhone, iPod touch **Requirements** iOS 7 or later



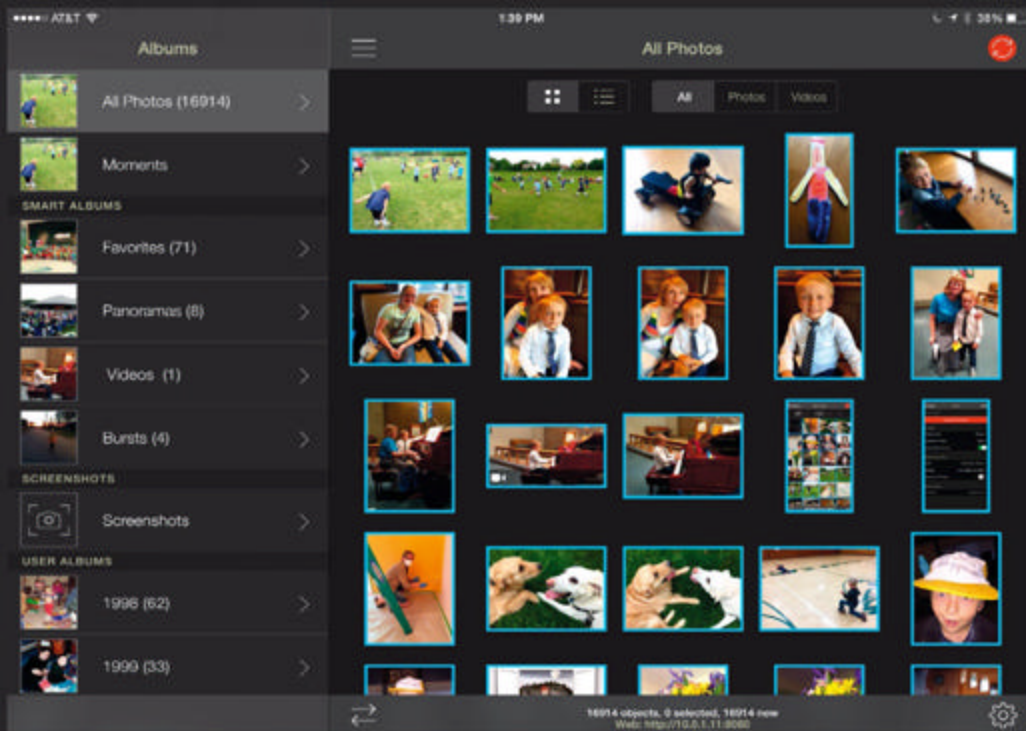
Like it or not, services are increasingly moving toward subscription-based business models, giving us the burden of juggling all those fees. SubscriptMe offers a heads-up before charges hit your credit card, but the experience remains a work in progress.

SubscriptMe scans your iPhone, presenting a list of installed subscription apps. The impulse is to select those you actually pay for with a tap, but here a counter-intuitive swipe to the right is required. Many popular services like iTunes

Match and Dreamhost don't make the cut, although they can be added manually. Others like Office 365 are curiously listed by each relevant app. Otherwise, SubscriptMe provides a nice overview of how much you're spending annually, with push notifications up to a week before rebilling in case you decide to cancel.

THE BOTTOM LINE. Better in concept than execution, SubscriptMe is worth a look for the convenient reminders before subscriptions next come due. **J.R. BOOKWALTER**

SOLID ■■■■



Now with full support for iCloud Photo Library, PhotoSync 3.0 is the best way to wirelessly transfer photos and videos from iOS.

on the way, but deleting empty files from a web browser also does the trick.)

In addition to supporting the iPhone 6 and 6 Plus properly, PhotoSync is also now fully compatible with iCloud Photo Library and OS X Photos, allowing users to create subdirectories, access image folders, upload burst mode images, and delete content directly for the first time.

PhotoSync also offers the option to transfer original images or those with edits made in the Photos app already applied. This toggle switch is buried in Transfer Settings for each target, but offers an extra level of control you won't get from native client apps.

We'd love to see future support for a number of off-the-beaten path targets, such as cloud photo services like Shutterfly and Adobe Revel, or lesser-known storage options such as Bitcasa or Copy.

THE BOTTOM LINE. Expertly and seamlessly transfers photos and videos between devices, computers, and the most important cloud storage services.

J.R. BOOKWALTER

PHOTOSYNC 3.0

- Full support for iCloud Photo Library and OS X Photos
- Option to transfer original or edited photos on a per-target basis
- Less responsive with larger photo libraries
- Missing some popular cloud services

AWESOME ■■■■■

PhotoSync 3.0

Much improved wireless transfer for photos

\$2.99 Developer touchbyte, photosync-app.com

Platform Universal **Requirements** iOS 7 or later



AirDrop and iCloud Photo Library make it easy to wirelessly move digital photos between Mac and iOS devices, but images need a passport to get to a more diverse range of travel destinations.

PhotoSync 3.0 is the absolute best way to shuttle photos and videos between a dizzying array of iOS and Android devices, Mac

or PC computers (via the free desktop companion), FTP and WebDAV servers, cloud storage services, and a new generation of wireless storage devices.

Rather than rely on multiple client apps for services like Dropbox, Flickr, OneDrive, and Google Drive, PhotoSync can be configured to transfer photos and videos to each with a tap, and be set up to automatically transfer to a preferred service whenever you arrive at a predetermined Wi-Fi location, such as home or office.

With this update the list of available targets now includes Amazon Cloud Drive. It's perfect timing now that Prime members can upload unlimited photos free of charge, although we initially had problems with a mysterious error triggered by a duplicate file check on this particular service. (The developer has a workaround



Sago Mini Toolbox

Imagination not included

\$2.99 Developer Sago Sago, sagosago.com

Platform Universal **Requirements** iOS 6 or later



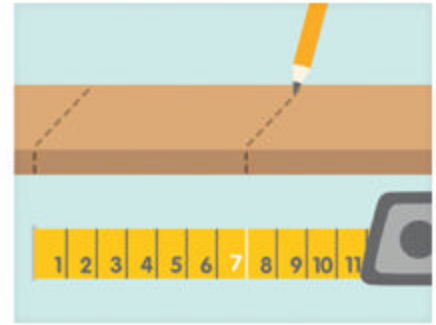
There are plenty of physical toolbox toys around, so a digital one needs to allow kids to explore and imagine in new and exciting ways. Mini Toolbox does the former, but not the latter, and even then it lacks in staying power.

Each project starts the same way: a sad or puzzled animal staring at a pile of raw materials. Burnished with cute animations, these characters have vast appeal. Children warm to their plight instantly, desperate to help. They do so by going through a series of steps where they use tools with simple taps and swipes. The tasks are often unrelated to the end product. The steps

for what turns out to be an ice-cream machine, for instance, include cutting felt with scissors and nailing wood.

Using each tool results in orchestral sounds. The hammer chimes like a xylophone with each blow, while sawing wood climbs the scales with a cello. Once complete, you're rewarded with another sweet animation of your digital pal enjoying their new toy. The first few times you do this, it's enchanting. Then you realize there's only eight tools, so repetition is rife across the 15 multi-step projects. When you're done, there's little reason to revisit.

Younger children will enjoy the repetition, but there's a disappointing lack



Your kids will need to complete a bit of DIY to keep their cute little characters happy.

of creativity on offer. They just follow the steps to unlock a little mystery: nothing encourages imagination. The presentation itself is magnificent, but nowadays, discerning parents have learned to expect a bit more underneath.

THE BOTTOM LINE. Briefly wonderful, but too few projects and tools rapidly lead to boredom. **MATT THROWER**

WEAK ■■■■

Air Display 3

Turn your iPad into a second display for your Mac

\$14.99 Developer Avatron Software, avatron.com

Platform Universal **Requirements** iOS 8 or later, OS X 10.8 or later, Wi-Fi or USB cable



Air Display 3 and its free Mac-based host turn your iOS devices into additional screens, expanding your workspace. Installation on the Mac requires a reboot, but connection is simple. The host didn't see our devices, but typing in an IP address was enough for an iPad to become a second display for our Mac. Attached displays can be zoomed and rotated; we found the latter switched the setup to mirror mode, but this was easily fixed in System Preferences.

Usefully, Air Display 3 has Retina and HiDPI options. The former usually makes for small, fiddly interfaces, but the latter

provides a pin-sharp second display. On Wi-Fi, though, responsiveness is poor; menus half-fade and stay put, and graphics "tearing" is commonplace. Therefore, to use the second screen for anything beyond housing static reference, connect via USB. Avatron claims this leads to "no perceptible lag," though we saw plenty of it in our tests, but the responsiveness was much improved, resulting in a usable set-up. Unfortunately, the custom iOS keyboard "pushes" the screen upwards when activated - it'd be better as an overlay. (The screen behind can be moved with a two-finger drag.)

This latest release also adds Air Stylus, which can turn your iPad into a kind of



Air Display 3 offers some nice additional features, but we found there was noticeable lag.

graphics tablet so you can draw with a stylus directly into compatible software in mirrored mode. Pressure sensitivity is supported, a boon for artists, but we'd still prefer dedicated kit in a studio set-up.

THE BOTTOM LINE. A decent upgrade and worthy of consideration to get more use out of dormant iPads, even if lag remains an issue. **CRAIG GRANNELL**

SOLID ■■■■



Full of secrets and monsters, Mount Grimrock is either your adventurers' salvation or their tomb.

will need to be paying attention. Grimrock's passages are full of hidden secrets, from small optional areas that offer improved equipment or weapons for your team to puzzles that totally obstruct your progress. This is where the game is at its best – the satisfaction of finding the tiny detail that reveals some fantastic new area or item is hard to beat. And, if your team does die, you know where to look after you load the save.

Speaking of death, though, it's a shame that combat is probably the weakest part of Grimrock's repertoire. Each of your adventurers can be given an appropriate weapon, visible in the lower-left corner, and you just tap to attack. Which isn't very interesting. Mage characters are a bit different, since you must memorize sequences of runes to learn new spells, but it feels more like busywork than skill. Your characters will get better at attacking as you find more equipment and level them up over time, so less tapping might be required, but that doesn't really solve the issue.

THE BOTTOM LINE. Grimrock's puzzling and adventure side is a lot of fun, looks great, and has translated really well to iPad – great for RPG fans. **MATT BOLTON**

Legend of Grimrock

It's never Happyrock or Fluffyrock, is it?

\$6.49 Developer Almost Human, grimrock.net

Platform iPad **Requirements** iOS 7.1 or later

LOG A dungeon crawler built from the oldest of old-school sensibilities, Legend of Grimrock tasks you with working your way through a maze-like dungeon, full of secrets, enemies and a pretty strong chance of untimely death.

You play as a team of four prisoners, promised their freedom if they can just make

it through the dungeon with their skin still attached. You get a generic group of fantasy adventurers by default, though you can customize your own set of four hapless fools.

You explore the dungeon in first-person, using direction buttons in the bottom right to steer yourself through its rigidly square corridors – a nod to the more technically challenged games from the early '90s that it's emulating. Everything is rendered in shiny, high-resolution 3D, so the game looks great, but you move through it one step at a time. Move forward, turn right, move forward, turn right, pull lever...

It sounds (and often feels) a bit staid and awkward, but it does make things really manageable for playing on the go. You don't need skilful maneuvering to explore successfully, though you



LEGEND OF GRIMROCK

- 📺 Looks great and easy to play
- 📺 Loads to find and explore
- 📺 Lovely old-school vibe
- 📺 Combat not that interesting

GREAT 🟢🟢🟢🟢

Caves n' Chasms

Digs deep, but doesn't quite bring up the treasure

\$3.99 Developer Chronicle Games, chroniclegames.com

Platform Universal **Requirements** iOS 7 or later



This is not a game for the claustrophobic. Plopped into an underground mine, you're armed with a drill, which can tunnel through blocks of dirt and cracked rock, as well as kill monsters, all of which drain your energy meter to varying degrees. Once that valuable power-juice is gone, you're stuck, unable to progress any further than the path you've already cleared.

Time to hit restart, while filling in the mental blanks on your slow, despairing death down there in the darkness. It means you're constantly forced to assess your path, making sure you're going for the most efficient route to your goal (there are a

certain number of amulets to be collected per level, and then an exit portal to reach), or at least one that offers minimal resistance, at a stretch.

It's a compelling idea, but it's certainly not perfectly implemented. For starters, the touchscreen control – in which you draw your intended path as a line with one finger – feels far clumsier and less precise than it should. You can only draw as far as you can see, too, so there's a frustrating start-stop to your motion, even when there's a clear path ahead of you – it plays far better when you zoom right out to give yourself a wider field of view (not that we saw this option flagged up in-game). Even then, the



A perfect example of why you shouldn't dig with your fingers. (Also, they get dirty.)

darkness obscuring the peripheries of your vision mean there's a frustrating amount of trial and error, rather than the joyful exploration of indie console hit Spelunky.

THE BOTTOM LINE. There's a good central idea here, but the levels don't offer enough variety to truly capture the imagination. **EMMA DAVIES**

SOLID ■■■■□

Jelly Reef

Stress levels will get ya, down where it's wetter

\$1.99 Developer Adriaan de Jongh, gameovenstudios.com

Platform Universal **Requirements** iOS 6 or later



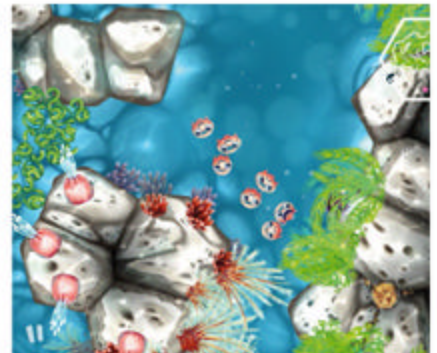
The premise here is simple: there is a smack of baby jellyfish (why, yes, that is one of the correct collective nouns, thanks for asking) and you – taking on the role of a helpful water current – have to guide them to safety. You swipe to create a current in whichever direction; long, slow ones or short, fast, more forceful ones. Sounds serene, right? Like being in control of a lazy river ride. As if...

When you fail, you're sent back to the start of the world. Each portion of the world is procedurally generated, which keeps things from being predictable, and has multiple exits – the world map is a grid of

hexagons, so veering towards one exit rather than another might grant you a quicker path across the world.

And that's enticing, because hazards are *everywhere*. Predatory rays gobble up your charges; sea snakes pop out of caves to snatch them; squid obscure your vision with clouds of ink; sea anemones wield their toxic spikes – especially dangerous when you're maneuvering through tight gaps, of which there are many.

If one of your squishy charges takes a hit, they're sashimi. Lose them all and it's game over. There are a couple of spawn points per level that let you recover one jellyfish apiece, but things still feel fraught.



Look at their little faces... can you bear not to keep this gaggle safe from harm?

It's hard not to feel guilty when your delicate wards pull terrified faces whenever danger is near.

THE BOTTOM LINE. Don't let the pretty, tropical-water setting fool you – this is fraught stuff, but highly enjoyable nonetheless. **EMMA DAVIES**

GREAT ■■■■□



Once you've seen one mohawked dog-bear in Trulon, you've seen them all...

Trulon

A slightly tedious take on the card-battle genre

\$4.99 Developer Dicework Games, trulon.net

Platform Universal **Requirements** iOS 7 or later



The words “strategy card game RPG” get us as excited as some people get over

sports, theme parks and new Marvel films. Trulon is one of those: a game published by a Finnish company, it features a strategy card battle element similar to that of successful World of Warcraft spin-off Hearthstone, as well as some

rather attractive artwork that flits between colorful drawings and pixel sprites.

At first, Trulon doesn't disappoint. Thrown into the world with naught but a deck of cards and your own spunky confidence, you travel off into the distance as Gladia, the game's heroine. The towns and villages are bright, the music pacy and the dialog interesting – if not a little odd, teetering on the edge of nonsensical. As a monster hunter, your job is to rid the land of the pesky critters that are bringing people down, and as in other turn-based battle RPGs, you'll come across these monsters in the field.

Unfortunately for a game that's so centered on these card battles, the fighting is irritatingly tedious, preferring to focus on the slow, repetitive doling-out of battle animations

while you wait for your turn. With cards dealt into your hand fairly sparingly, you'll also find yourself in difficult-to-win battles, purely because of the luck of the draw – though you can create your own strategic deck with cards you've picked up along the way.

The monsters appear and reappear as slightly different versions of themselves, with horns, different colors, tougher defenses – but very rarely new tactics. The maps are convoluted, samey, and sprawling, turning traversal into filler content that requires you to drag Gladia around in increments.

The story itself is sweet, and it's certainly reassuring to see a female lead in an iOS game, but there's so little of substance in Trulon. The bits worth celebrating are found in between a great deal of padding, and frequent frame drops and the occasional crash did little to gain our affection. Not a completely terrible timewaster, but there are much better available for this kind of price.

THE BOTTOM LINE.

Aesthetically attractive though it might be, Trulon disappoints with repetitive, tedious combat. There are better card battle games out there. **KATE GRAY**

TRULON

- Well-designed artwork and music
- An intriguing story invites exploration
- Technical issues mar the enjoyment
- Often repetitive and dull

OKAY ■■■■



ROUNDUP

The 6 best iPad apps to learn programming

Have fun and build great new skills at the same time

BY AMY WORRALL

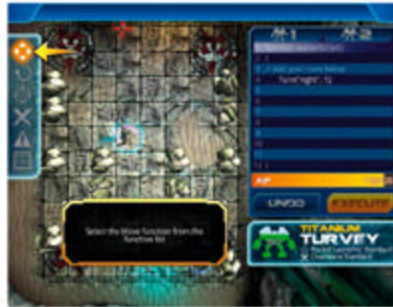
Learning to program is fun, and there's never been a better time to get started. The key to programming is learning how to think in the right way – computers will do what you tell them, even if it doesn't make sense. These apps will teach you how to get your brain into the right mode.

In **CARGO-BOT** (Free, iPad), you instruct a crane to move crates around to a specified arrangement. You give the crane all its instructions in advance (by dragging little icons around), and it follows them one at a time. In this fashion you learn programming concepts such as repeating a shorter sequence of actions, or only performing a sequence when a box is present.

HOPSCOTCH (Free, Universal) lets you make your own programs by placing characters on the screen, then adding rules such as "When girl is tapped, move forward." By



In Cargo-Bot you can learn to program short sequences simply by controlling a crane.



Hakitzu Elite: Robot Hackers offers a steady learning curve and extensive tutorials.

building these rules, you can make simple games or interactive scenes. Hopscotch includes puzzles to solve, and video tutorials that show you how to make some example games.

TYNKER (Free, iPad) is similar to Hopscotch, because they're both inspired by the educational programming language Scratch. They use the same approach of dragging commands into the right order. Tynker's tutorials are both excellent and numerous, but due to Tynker's additional functionality over Hopscotch, it may be necessary for beginners to start with the tutorials rather than the free creation mode.

HAKITZU ELITE: ROBOT HACKERS (Free, Universal) is a robot fighting game. You write short programs to issue orders to your robots. You start by choosing icons from a menu to add commands to your program, but as you move through the challenges you graduate to typing the program directly. Hakitzu's extensive tutorials never leave you wondering what to type, but it can be fiddly entering all the required punctuation using the on-screen keyboard.

CODECADEMY: CODE HOUR (Free, Universal) gets you to "fill in the blanks" of short programs, in order to learn one concept at a time. There's helpful text at the top of the screen explaining the concept behind what you're doing, and if you get things wrong it gives you a clear explanation. In all, it takes one hour. This is Codecademy's only app, but it has other courses to try online.

CODEA SCRATCHPAD (\$4.99, iPad) teaches you Lua, a language used in many published games. However, there's no tutorial – the "Getting Started" guide just links you to the Codea wiki. If you would rather eschew beginner-focused apps and learn a professional language, arm yourself with a book on Lua and dive in – but you'll need to be a self-motivated learner. Its big brother, Codea, lets you turn your programs into apps for the App Store, too.



Codecademy: Code Hour asks you to "fill in" short programs so you learn a step at a time.



REVIEWS

TOUGH TESTING, TRUSTED RATINGS

Apple Watch: the long-term verdict

The next big thing, or a minor addition? Here's *Mac|Life's* full review of Apple's wearable

\$349-\$17,000 **Manufacturer** Apple, apple.com

Models Watch, Watch Sport, Watch Edition **Sizes** 38mm, 42mm

Let's start at the end. After using the Apple Watch for quite a while, exploring its usefulness and ins and outs, we really enjoy using it, and will continue wearing it. And yet, this is one of the hardest reviews we've ever written, because the value of the Watch is so subjective. Will it be right for you? Well, we'll tell you what we think, and hopefully you'll start to know.

Apple has called the Watch its most personal device yet, and we think that's true. "Your mileage may vary" definitely applies to this particular lifestyle gadget. That might sound critical, but we don't mean it to be. It's just that, while the Watch has a wide array of features, in practice, its usefulness is limited to a few key functions. Many of its ancillary features, including most third-party apps, are so bare-bones and unwieldy that you won't want to struggle with them if an iPhone version is within reach.

Maybe it's no surprise, then, that it took a couple of days of wearing it for us to really work out what the Watch is for. We always knew it could do a million things, just like an iPhone or iPad, but it didn't seem to specialize in any one area - there was no singular, killer reason to own one. As it turns out, its signature feature is also its most obvious: notifications. We suspected this would be the case, and that the Watch might actually underwhelm as a result. What good is one more device chirping at you every time you get a text, email, phone call, and so on? Fortunately, the Watch doesn't just parrot your other devices in this area - it surpasses them.

We're reminded of an early criticism of the iPad, that it was simply a "bigger iPhone." That was essentially true, but the extra screen space had a profound impact on what the device could do, on the kinds of apps and experiences that were created for it. Apple Watch does notifications better than anything else.



For detailed definitions of every score on *MacLife's* ratings scale, go to maclife.com/ratings.

The Apple Watch may not qualify as everyone's "must-have" device but you could find that it works very well for you.

And while it's easy to question whether that makes the Watch a *necessary* device, we've enjoyed and appreciated the way it goes about keeping us informed and on task.

The keywords here are immediacy and presence. While it only takes a second to whip out your phone, there's something about having your Watch within sight, delivering information immediately. And since it's always there on your arm, even at home when you've left your phone in a different room, you're

THERE'S SOMETHING ABOUT HAVING YOUR WATCH IN SIGHT, DELIVERING INFO IMMEDIATELY

never unplugged from your digital world. Wearing the Watch also keeps data tracking going (such as steps taken and stairs climbed), and ensures that useful functions are always at hand (we've enjoyed using its Remote app with the Apple TV).

Could a constant pinging on your arm be a bad thing? It hasn't been for us, but we're sure it could bother some people. As with any device, your experience can vary greatly depending on how you customize it. Loads of apps would love to constantly bug you, but you don't have to let them.

Slim-fingered folk will probably take to the small screen a little easier than those with bigger digits.



You can shuffle around the apps on the Watch's Home screen, just like the iPhone.

We've limited our notifications to texts, reminders, calendar alerts, emails from VIPs, and progress updates on our daily Activity goals, and we haven't felt at all bombarded. And while notifications on your wrist are more noticeable and, we suppose, distracting, they can often be dealt with faster. Since you know you won't miss anything important, you can cut down the number of times you pull out your phone just to check in.

On the other hand, the Watch seems to be the poorest possible choice for apps that require more than a few seconds of your time. Games in particular suffer, even simple puzzlers, and not only because of the small screen – holding your arm up to play quickly becomes tiring and uncomfortable.

And that applies not just to games, of course. Apps regularly take several seconds to load, and can fit so little information on one screen that you might be holding your arm in place for a little while as you flick through to the screen you need.

To put all this another way, the Apple Watch isn't something you should really engage with – you wait for it to engage you. If you're bored in line at Starbucks, you'll still want to pull out your iPhone. But having your Watch deliver soft chimes and gentle wrist taps throughout the day is helpful,

The runner's review

Is this really as good a fitness watch as Apple says? **Gareth Beavis** tests it on the streets

>>> I'LL MAKE this quick for you: the Apple Watch isn't great for running. Yet. While there's lots that's wrong with it right now that prevents me from recommending it becoming your jogging buddy if you're a serious runner, there's actually still enough potential to not label it a complete fitness fan failure.

Let's start with the juicy bit: what the Apple Watch fails on for runners. The first one is glaringly obvious, and well documented. It doesn't have GPS and therefore is nearly useless as a true running watch. It can work without a connection to an iPhone, but only with Apple's own Workout app. All third-party apps need the phone to function.

Perhaps you don't mind that - maybe you always run with a phone anyway. However, start running and every time you raise the Watch to see how you're doing, it'll default back to showing the time and you'll have to tap around a bit to see your stats (unless you're using Apple's Workout app). You can fix this - you can make it so the last used app, not the time, displays - but this means in day-to-day use the Watch won't show the time when you want it to. And it kind of needs to do that.

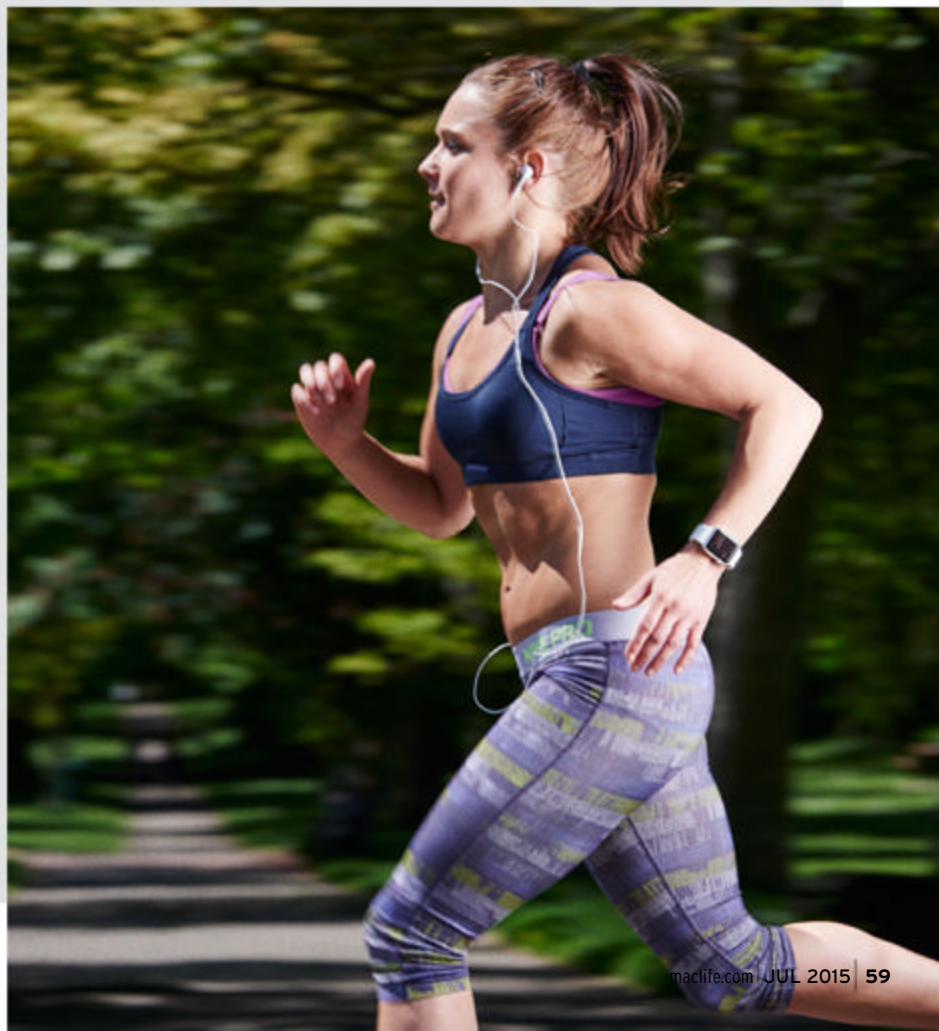
I really wanted the Apple Watch to let me customize the display more, to show the info I really need when running. I wanted it to let me race my previous activities or even delve into the data to analyze what I've done. It doesn't offer these on its own, though, and any alternative option is limited.

Still, it does have some interesting elements - the first being that it supports external heart rate monitors. This is great, because it turns out that the one on board is really quite useless when running, often telling me that my heart rate was rocketing when the chest strap was telling me I was fine.

You can connect up Bluetooth headphones directly to the Watch and listen to music stored on it (although be warned that there's a 2GB limit) if you do want to leave your phone at

home. It also lets you pay for stuff on the go, which can be a real lifesaver if you find yourself out without a wallet and need a drink.

So the Apple Watch is good for running if you're willing to accept some workarounds. I wanted more from it, though, and for any fitness lovers thinking of shelling out the large sums needed to buy it, I'd say it's best to go for a dedicated running watch like the Garmin Fenix 3 - as long as you can deal with the larger size on the wrist.





The shiny stainless steel model is lovely – much nicer than the Sport’s aluminum finish.

and actually pretty darn charming. We were rather smitten from early on, and with each passing day the Apple Watch felt more at home on our wrist and in our routine.

We especially grew to appreciate how easy the Watch makes it to glance at calendar events. Our customized watch face displays the next upcoming event, and by tapping it we can easily scroll through the next several days using the Digital Crown or a finger. Events, time, date, temperature, Activity

WE GREW TO APPRECIATE HOW EASY THE WATCH MAKES IT TO GLANCE AT CALENDAR EVENTS

tracker – there’s a reason these elements can be added to most watch faces, because they’re by far the most useful. Apple Watch has also reminded us of the traditional value of a wristwatch. Having given watches up after carrying phones for so long, being able to check the time in a movie theater without having to awkwardly fish a phone from a pocket while in a seated position – and without annoying those next to us with a big, bright smartphone screen – feels almost novel again.

And for all the worries about the Watch’s battery life, we found that it really is all-day, without problem. At first, you might end up burning through it quite fast as you use it repeatedly while getting used to the novelty, but as we settled into our use of it (receiving notifications, taking action on a few, occasionally checking Glances, checking the time frequently) we usually ended the day at around 50% battery. You’ll still need to charge it every night, but we never really worried about it not making it to the end of the day.

The fashion angle

Apple has courted the fashion world with the Watch, but how has it been received?

For decades, Apple has aspired to make its machines look more than functional, but the way it has focused on the world of fashion with the launch of the Apple Watch takes its aesthetic aims to a new level. 38 possible combinations of case and band, including gold cases and customizable faces, are testament to this. But while Apple loves the world of watches, does the fashion world feel the same way? As ever, opinions are mixed.

"Beautiful design has always been a cornerstone of the Apple brand, but the Watch takes this further. It is sleek and elegant but also slightly, yet deliberately, frivolous," says Jess Carter-Morely, fashion editor at *The Guardian*. Eliza Brooke, associate editor at Fashionista, was similarly impressed: "The combination of the display's smooth gradients, the leather band and the high-shine metallics gives the Watch a distinctly Burberry feel... all those luxury hires seem to have paid off." Dylan Jones, editor of *GQ*, thinks the Watch "looks refreshingly modern while also looking like something you've seen a thousand different times before (from Cartier to Swatch). It is strange, yet familiar. Which is why it will work."

Lisa Armstrong, contributing editor at *Vogue*, was less sure, but largely won over: "When it was unveiled, it seemed a tad bulky. But they need to stash all that technology somewhere. Once on, it sits surprisingly elegantly on your wrist. And at the first satisfying chink of the buckle,

which snaps together magnetically, it was on its way to clinching the deal."

However, Suzy Menkes, international editor at *Vogue*, was not as impressed: "From a fashion point of view, the external aesthetic seemed neutral: neither super-stylish nor repellent. I'd imagine that geeks would love it more than aesthetes." Meanwhile Christine Campbell, president of independent boutique Crimson Mim, is unconvinced, telling *Forbes*, "It's too big. It looks like a computer on your wrist. It reminds me a little of digital Casio watches from the '80s. It's just not pretty." She went on to outline the challenge for Apple as she sees it: "The problem with wearables is that they're not the same as fashion. It's not that wearables can't be fashionable, but the nature of fashion is change... Is it possible to create a wearable device that changes with fashion (and technology)? Can technology and "timeless classic" co-exist?"



Our favorite Apple Watch apps

6 awesome apps we've loved having on our wrists



CALCBOT
Free

This is a slick “intelligent calculator” and unit converter. The Watch app adds a new mode to calculate tips and split a check among multiple people. The unit converter also includes key options through a deep press, with the option to customize what appears from the iPhone.



TWITTERIFIC
Free (with IAP)

Featuring a glance that offers real-time stats and a rich notification experience, Twiterrific displays the actual name and avatar for new followers and even allows users to compose new tweets using Siri dictation. There's also the ability to reply to mentions and direct messages.



ITRANSLATE
Free

Speak into the Watch in your native language, and iTranslate magically translates words, phrases, or text into another language of your choice, displaying the translated words on-screen. It's very handy for communication for business or travel.



DARK SKY
\$3.99

Dark Sky's impossibly accurate forecasts help you to make sure you're always dressed for the weather, and it will give you notifications warning you shortly before it's about to rain, so you have time to dash into a coffee shop or head back to your car (or buy an umbrella).



YELP
Free

Naturally, you'll find Yelp's usual local restaurants, bars, coffee places and other businesses, but the Hot & New category will give you a few new choices that you might not have been aware of. The usual complement of reviews, price levels, and hours are also here, along with maps.



WORKFLOW
\$4.99

Using this app from your wrist is a great way to initiate a workflow on your iPhone or even add a new one from the gallery. Workflow offers more than 200 actions that connect with your favorite apps and services, allowing the Apple Watch to do a whole bunch of clever tricks.



Not everything about the Watch grows on you over time, though. Sending sketches and heartbeats to other Apple Watch owners wears out fast. To be fair, these little embellishments are mostly for fun anyway, but we were surprised at how quickly the novelty wore off. We can't imagine that even the most romantic couple will trade digital love notes more than a few times.

Having said all this, the Watch is only a couple of months old, and there's every chance it will mature into something even better. It's tough to say exactly what that might be, but at the very least, app developers who missed the mark early on will learn from those who get it right, and there's no doubt future versions of the Apple Watch will present a more refined and focused vision. Or, maybe the whole smartwatch concept will prove to be an evolutionary dead end looking at devices long-term.

We think the jury's still out there, despite the Watch's early successes.

In the meantime, today's Apple Watch will be judged by individual expectations and what each person uses it for. Simply put, if you value instant, no-miss notifications, or general health tracking, you'll get good use out of it. Those two things are its core right now, although a few other features are certainly nice to have, such as very slick ability to use it for Apple Pay or as a remote for iTunes and Apple TV. Just don't think you're getting in on the ground floor of the next iPhone or iPad. This is a complementary device, not a revolutionary one.

THE BOTTOM LINE. The Apple Watch does what it does very well, but it's not hitting its full potential with apps in particular just yet. We really like it, and wouldn't go back to not using one, but there's lots of room for improvement. **CHRIS SLATE**

Analog or digital – choose how you want the Apple Watch to display the time.

APPLE WATCH

- Battery life (slightly) better than expected
- Immediacy of notifications and calendar events
- Wide range of cases and faces to choose from
- Not ideally suited for gaming and some apps

GOOD ■■■■ ■

Apple MacBook Early 2015

Is Apple's thinnest, lightest notebook ever a compromise too far?

\$1,299 (1.1GHz); \$1,599 (1.2GHz) **Manufacturer** Apple, apple.com

Key features 1.1GHz Intel Core M processor, 8GB memory, Intel HD Graphics 5300, 256GB SSD

Apple's quest for ever thinner and lighter devices is unrelenting, and while we're all for things being more portable, the question is whether the company sometimes goes a bit too far, or a little too fast. The new MacBook is just 13 millimeters thick, weighing two pounds – easily its thinnest and lightest notebook yet. It fits a 12-inch screen and a full-size keyboard into a smaller footprint than the 11-inch MacBook Air. But it's also Apple's slowest notebook, and it comes with just a single data port, which also doubles as the charging plug. So the question is whether these compromises are worth it – whether you get enough extra utility from the portability to replace the lack of ports, and whether it's still capable enough to justify its \$1,299 price tag.

Okay we'll just tell you: they are, but with certain caveats. It won't be for everyone just yet, as we'll explain in this review, but we are completely sold on the MacBook, compromises and all.

A surprising amount of new technology has gone into creating the MacBook. It's Apple's first ever computer with one of Intel's Core M processors: lower-power chips for fanless designs. Apple created a new smaller circuit board, and a new way of making thin layers of batteries to better fill the aluminum body. It needed to develop a new keyboard, which could be thinner without losing comfort or feedback. It needed a thinner multi-purpose port, and so it's one of the first machines to use USB-C, which isn't much larger than the Lightning port on iPhones. A new trackpad design is more efficient with space – removing the clunky hinge mechanism and using a tiny motor to simulate a click. Oh, and there's the Retina display, which is enough reason for some to want the MacBook on its own. When you add all that up, its price premium over the MacBook Air seems reasonable – provided all of the new things do their job well.

Let's start with the Retina display, which fits 2,304x1,440 pixels into a 12-inch screen. It's the same pixel density as the 13-inch Retina MacBook Pro, meaning that it offers the same brilliant levels of detail, whether you're looking at photos or just reading lovely crisp text. It's bright and vibrant, offering fantastic colors for viewing images or watching movies. It offers superb viewing angles as well, which is something the MacBook Air struggles with.



The low weight and fanless design of the latest MacBook mean trade-offs in some areas, but we think they're worth it.

HANDBRAKE VIDEO ENCODING TEST

Device	Time
MacBook	98 minutes
MacBook Air 11-inch	69 minutes
MacBook Pro 13-inch	57 minutes

To test real-world CPU capability, we re-encode a Blu-ray quality video. Lower numbers are better.

BATMAN: ARKHAM CITY BENCHMARK 1080P

Device	Frames per second
MacBook	14 fps
MacBook Air 11-inch	15 fps
MacBook Pro 13-inch	20 fps

We run the benchmark tool in Batman: Arkham City at 1,920x1,080, with settings on High and all bells and whistles on. Higher numbers are better.

BATTERY LIFE TEST

Device	Time
MacBook	454 minutes
MacBook Air 11-inch	456 minutes
MacBook Pro 13-inch	405 minutes

To test battery life, we set the screen brightness to 50% and stream web video until the battery runs out. Higher numbers are better.

CINEBENCH R15 CPU BENCHMARK

Device	Score
MacBook	198
MacBook Air 11-inch	257
MacBook Pro 13-inch	300

Cinebench is an industry-standard processor benchmarking tool. Higher numbers are better.

BLACKMAGIC DISK SPEED TEST

Device	Read	Write
MacBook	772.9MB/s	464.7MB/s
MacBook Air 11-inch	683.9MB/s	312.8MB/s
MacBook Pro 13-inch	1308.3MB/s	615MB/s

We use Blackmagic's Disk Speed Test tool to check SSD read and write speeds in megabytes per second. Higher numbers are better.



At just over 11 in wide and weighing in at 2 lb, there are no worries about the MacBook being a burden.

Also instantly brilliant is the Force Touch trackpad, just as it is on the 13-inch MacBook Pro. It actually felt to us like the feedback clicks are perhaps slightly softer here, but we got used to it very quickly, and you can adjust their strength somewhat. We still have reservations over the consistency of what deep presses on Force Touch trackpads do in OS X, but as just a regular trackpad, it's just about ideal.

Using the new keyboard on the MacBook is more of an uncertain experience. Since it's made to be thin, there's very little travel in the keys, which we expected. They still give reasonable feedback during typing, though. It didn't take long to get used to, and we were accurate on it after just a minute or two, but even after a couple of days of light use, we still weren't sure if we *liked* it or not. But after using it exclusively for a week, coming back to the other style of keyboard was just as weird as switching to the MacBook's had been. Suddenly, our much-loved MacBook Pro felt too soft. In the end, we'd put the usability of the MacBook's keyboard more or less on a par with its previous design – not better or worse, just different.

PERFORMANCE - The MacBook's physical usability is great, then, but one of the biggest question marks hangs over its performance. The Intel Core M processor is dual-core, but is clocked at just 1.1GHz, and is a less-advanced design than you get in every other Apple



notebook. Intensive tasks really show this up – it took almost twice as long to complete our hardcore video encoding test than the 13-inch MacBook Pro, and almost 50% longer than the MacBook Air 11-inch. But this is no surprise – the MacBook just isn't designed for that kind of pro-level creative task. The real question is whether a more limited processor holds you back in the kind of general use it's really built for. And there, it's actually great.

OS X feels perfectly smooth on it, as fast as you would hope generally (helped heavily by the really

animations can stutter dramatically. It's absolutely usable, but will need a bit of patience.

More unexpected to us was finding that Google Maps was frustratingly slow in Safari. We can imagine why – native apps always run smoother – but it's the perfect example of where things can go wrong with the slow processor. For a week of use, you might have no problems at all, then some little thing you rely on doesn't work as well.

Still, it can manage to play simpler games. The graphics chip is actually reasonably capable, and

The keyboard does feel different, with little travel in the keys, but it doesn't take long to get used to.

IT'S INSTANT TO COME ON FROM SLEEP AND APPS LOAD WITH LITTLE WAIT

quite fast flash storage and a healthy 8GB of RAM). It's still instant to come on from sleep, and apps load with little wait. Using something like a word processor doesn't seem to strain it, and websites are quick to load. That said, you can find yourself hitting the upper limits of its capabilities fairly easily. Working in Photos is generally fast enough, for example – making edits to iPhone-sized photos is almost instant. But when you're scrolling through a huge library, or going between different views, the

even recent city-building favorite *Cities: Skylines* is playable at 1,280x800 with all its settings turned down. That said, we could never get *Batman: Arkham City* satisfyingly playable – you'd have to keep it very light.

So while there are obvious limitations to its power, we don't find them to be dealbreakers, as long as you understand what you're getting. And you do get something in return for living with the low-power processor. Two fantastic things, in fact.

At just half an inch thick with the lid closed, the MacBook takes up little room in a bag.

The first is the battery life, which matched the 7.5 hours of the 11-inch MacBook Air in our intensive tests, outlasting the 13-inch MacBook Pro by almost an hour. The 13-inch MacBook Air is still the ruler here, managing a colossal 549 minutes to the MacBook's 454, but it means that the MacBook still offers a full working day of battery life no problem.

The second, and more surprising, feature is one that we most don't want to do without now. The MacBook is fanless, meaning that it's totally silent to use (well, it has speakers, of course, which are fine, though hardly impressive). It gets warm, but never overly hot, in our experience. When you then go back to using other laptops, with fans firing up even when just browsing the web, they suddenly seem so... archaic. It's just so much more pleasant to use on the sofa or in bed - iPad-like.

That leaves one last, significant stumbling block, though: the ports. The single USB-C port (there's also a 3.5 mm headphone jack, but that's it) for data and power is, much like the processor, perfectly fine most of the time, then suddenly not. While traveling with the MacBook, we wanted to transfer some raw photos to it from our camera on a whim... but didn't have any suitable adapters, and it's not like these particular cables are common yet, so we couldn't easily pick one up. We also needed to get our benchmarking tools off the Thunderbolt drive we

keep them on, but were stuck - there's no adapter for that. Still, these were our only problems - various cloud services had us sorted in everything else we wanted to do. Again, if you can understand and assimilate this limitation, the MacBook will work fine for you (and a plethora of USB-C adapters and docks are coming), but if you need flexibility, you just won't find it here.

PORTABLE PAL - The MacBook is possibly Apple's best travelling companion so far. It's solidly built, despite its thin size; it's usable everywhere from fold-down train or airplane trays to your office desk; it lasts hours and hours; it weighs barely anything, so there's never a question of whether to laden yourself down with it; its eminently usable and comfortable... we know it's full of limitations, but we enjoyed using such a light, zippy, quiet machine so much that we totally forgot them. Well, until we hit them dead on. But that's the trade-off...

Some in the *MacLife* office have said that, if they're going to spend \$1,300 on a notebook, they expect it to be able to do anything. It's a reasonable point of view, but the great thing is that Apple already makes that machine: it's the 13-inch Retina MacBook Pro, which is the same price, and which we also love. The MacBook is for people who aren't after something all-purpose. Who want something lighter, both in weight and in impact on their life.

THE BOTTOM LINE. Silent, light, usable and with a Retina screen, this is one of the best notebook designs ever. There are limitations on performance and ports, and waiting for a future version might get you more power and flexibility, but even now, the MacBook is a revelation. **MATT BOLTON**

APPLE MACBOOK

- ▶ Very usable keyboard and trackpad
- ▶ Silent fanless operation
- ▶ Highly portable with impressive battery life
- ▶ Single USB-C port and low-power processor

GREAT ■■■■■



The Retina display offers the same pixel density as the MacBook Pro, with great detail, bright colors, and superb viewing angles.

Essential MacBook Accessories

Ideal add-ons to help you get the most out of Apple's newest notebook



SANDISK DUAL USB DRIVE TYPE C
\$40

sandisk.com

Going to need to transfer files from a regular Mac or PC to your MacBook often? This 32GB flash drive has both a normal Type-A USB connector as well as the MacBook's Type-C connector, so it works on anything.



ADAPTER CABLES
\$Various

apple.com, belkin.com, kanex.com

Apple, Google, Belkin and Kanex are all offering USB-C adapters. Apple's are great – especially its multi-port video out options, which offer a USB-C passthrough port for charging – but fairly pricey. Shop around.



AIRPORT EXPRESS
\$99

apple.com

For Ethernet connections, you could get an Ethernet adapter, but an AirPort Express creates a Wi-Fi network instead, freeing up your one port and giving you more freedom. For a cheaper (slower) option, check out the Kanex MySpot.



**LACIE PORSCHE DESIGN
MOBILE DRIVE**
From \$70

lacie.com

LaCie's Porsche Design Mobile Drive comes in 500GB, 1TB or 2TB capacities, and offers a Type-C USB connection (it comes with a Type-C to Type-C cable). The 500GB drive weighs just 6.4 oz.



TWELVE SOUTH PLUGBUG
\$35

twelvesouth.com

Replace the plug on your MacBook's wall charger with this and you get a standard USB charging port. That's all it does, but it's really useful – you then don't need to worry about taking a wall plug for charging your iPhone when traveling.



BOOQ TAIWAN SPACESUIT 12
\$40

booqbags.com

If you don't have a bag with a dedicated notebook section, you'll want to protect your MacBook. Booq's sleeves are protective and stylish. The Taipan spacesuit is made of neoprene in a honeycomb pattern, and is well lined.


PowerPhotos

Photo management made easy

\$19.95 Developer Fat Cat, fatcatsoftware.com

Requirements OS X 10.10.3 or later; Intel Core 2 Duo processor or better



Tired of having to  in Photos just to view metadata? PowerPhotos keeps it always displayed in the lower left corner.

With the release of OS X Yosemite 10.10.3, Apple's venerable iPhoto and Aperture are essentially dead and buried, replaced by a more efficient, iOS-like, iCloud-connected solution. Unfortunately, the built-in Photos application does little to eliminate some of iPhoto's long-standing limitations, such as managing more than one image library.

Thankfully, Fat Cat Software comes to the rescue with PowerPhotos, a third-party companion to help create, organize, duplicate, and even search between multiple libraries. While it appears to work directly on libraries, PowerPhotos actually works in conjunction with Photos, launching or quitting the main application as needed.

Essentially the next generation of Fat Cat's insanely handy iPhoto Library Manager, PowerPhotos offers a better way to view basic metadata without having to summon Photos' pesky Info window, and you can quickly hop between different libraries by selecting one in the sidebar. **There's a convenient list view to sort or display photos by date, file name, keyword, and other criteria without thumbnails slowing down the process.**

As the name implies, PowerPhotos only works with new or migrated Photos libraries. The software streamlines the migration process

for existing iPhoto or Aperture libraries by reducing it to a few clicks of the mouse, rather than having to open each one manually.

PowerPhotos can also be used to identify duplicates hiding inside a photo library, with full control over how such copies will be dealt with. By default, the software marks a single keeper, but unchecking this option offers more granular control over intentional duplicates, such as variant photos that have had filters or other effects applied outside of Photos.

After clicking apply, duplicates are placed in a new album, from where they can be deleted or have a keyword assigned to them instead. Purging dups worked like a charm on migrated Aperture libraries, with the exception, oddly enough, of our main iCloud Photo Library – PowerPhotos appeared to go through the motions, but completed with an error despite creating a duplicates folder without any actual photos inside.

PowerPhotos is also currently missing some of iPhoto Library Manager's more advanced features, such as the ability to merge, rebuild, and copy photos between libraries. As a result, PowerPhotos is free for new and existing iPhoto Library Manager 4 owners, but hopefully the developer will find a way to restore this missing functionality in a future update.

THE BOTTOM LINE. PowerPhotos may lack the punch of its predecessor, but it's indispensable for those making the transition to Photos. **J.R. BOOKWALTER**

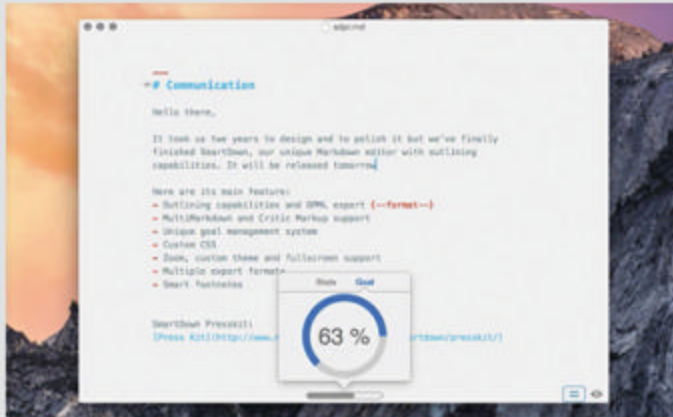
POWERPHOTOS 1.0.2

- ▶ Manage multiple Photos libraries
- ▶ Find and remove duplicate images
- ▶ Missing advanced functionality of iPhoto Library Manager
- ▶ Find duplicates failed to remove images from iCloud Photo Library

GREAT ■■■■■



PowerPhotos identifies all iPhoto or Aperture libraries, making it a snap to migrate them all to Photos at once.



SmartDown

Markdown and outlining in one

\$19.99 Developer Neomobili, neomobili.com

Requirements OS X 10.9 or later

SmartDown is a full-featured Markdown text editor with syntax highlighting and HTML previewing, offering export to RTF, HTML and PDF. Plain Markdown is supported, along with MultiMarkdown for things like tables, and Critic Markup for tracking changes. Light/dark themes are available, as well as your own; every aspect of syntax highlighting is customizable, and you can add your own CSS for Markdown preview. Writers are well served, with statistics on words, sentences, pages, and reading time; you can even specify a word-count goal, and SmartDown will show your progress. It takes Markdown syntax into account when counting words, and it offers a Highlight Mode, where all but the current sentence or paragraph is dimmed. You can also do basic outlining in your Markdown file. Headings can be collapsed/expanded, using arrows in the document gutter, and there's a floating tooltip marking the section. You can even export your work as an OPML file.

There are some handy editing tools, like shortcuts to move lines and a right-click palette of Markdown-insertion options.

THE BOTTOM LINE. SmartDown is ideal for planning, organizing and writing documents in Markdown. Extensive customization options add to the appeal. **MATT GEMMELL**

SMARTDOWN

- 🔧 Completely customizable Markdown syntax highlighting and previewing
- 🔧 Outlining, with collapsible headings and OPML export
- 🔧 Useful statistics, goals, and tools for writers
- 🔧 Some rough edges in interface and keyboard shortcut support

GREAT ■■■■■

PageMeUp

A print and online layout tool

\$9.99 Developer Softobe, softobe.com

Requirements OS X 10.8 or later, 64-bit processor

This could well be the best-value application on the Mac App Store. For less than \$10, you get desktop publishing and web design rolled into one. The interface is clear, and you can tailor the screen with single or double columns of palettes, collapsing any sections you're not using. You pick your fonts through OS X's Fonts window - with no live preview, sadly - but you can save your settings. There's no leading control, but it supports individual character kerning. There's a basic ruler with tab stops and dynamic guides that show when elements are lined up with neighbors or rotated to 15-degree increments. Frames are aware of surroundings, flowing to fill available space, and image boxes double as shape masks.

You can flip between print and HTML, so it's easy to create one design and use it as both a flyer and a website. The code underpinning HTML output isn't as tidy as you'd expect, but it is comprehensive, with bespoke CSS handling complex text formatting and cross-browser transformations looking after more advanced features like rotated images.

THE BOTTOM LINE. A good starting point for clubs and home users who need a simple tool for cross-media design. **NIK RAWLINSON**

PAGEMEUP

- 🔧 Excellent value for money
- 🔧 Exports advanced CSS tags
- 🔧 Basic font control
- 🔧 Untidy HTML export

SOLID ■■■■■



Lightroom 6

Adobe's photo enhancer gets a fresh new update

\$149 or \$9.99/month (Creative Cloud) Developer Adobe, adobe.com

Requirements OS X 10.8 or later, 64-bit processor

Lightroom is Adobe's professional photo enhancing and cataloging program and it's designed to be used alongside a regular image-editor like Photoshop. Indeed, if you buy it using the Creative Cloud subscription option instead of a one-off fee, you'll get Photoshop included. Lightroom's editing tools don't reach the same depths as Photoshop's, but it's aimed with a slightly different intention – simpler non-destructive improvements to photos, rather than full editing of images with lots of layers.

Adobe has introduced new tools for organizing photos in Lightroom 6, but the main additions are to the editing tools. There are also exciting new panorama and HDR tools, and it's now possible to “brush out” areas adjusted with the Graduated and Radial filter tools. Lightroom 6 also introduces face recognition, and comes with new HTML5 web galleries and a major upgrade to the Slideshow tools.

Blending several images to make an HDR composite is simple. There are options for “deghosting,” if you have objects moving between the frames, such as leaves and branches, or passersby. It can take a minute or so to blend the images, eventually producing a realistic image with the shadows and highlights intact but without unrealistic tonal compression or flattened contrast. Panorama merges follow a similar process and result in seamless compositions.

It's now possible to manually mask out areas modified by the Gradient and Radial Filters; sometimes you'll have buildings or other objects jutting out into a darkened sky – and you don't want these objects darkened by the Gradient Filter. It's also now possible to move the “pins” created by the Adjustment Brush.

It's a little odd to find face detection and recognition tools in a professional image cataloging application, but it will appeal to those who used the feature in Aperture or iPhoto. At first, Lightroom can still identify unique faces and group them together, but you have to tell it who these people are. The more you use it, though, the more it's able to suggest names automatically.

There are many other small improvements and additions too, and it all adds up to make Lightroom a great next step for people moving on from Aperture, or upgrading from iPhoto/Photos.

THE BOTTOM LINE. If you're a photo enthusiast, expert or professional, you need software which can organize, output and enhance your pictures; with a few minor quibbles, Lightroom is the best choice. **ROD LAWTON**

LIGHTROOM 6

- Powerful cataloging and searching tools
- New HDR and Panorama merging
- Powerful non-destructive editing
- Subscription needed for Cloud options

EXCELLENT ■■■■■



An already superb piece of software receives yet more improvements.



Acer S277HK

An affordable 4K monitor with an elegant design

\$699 **Manufacturer** Acer, us.acer.com

Display 27-inch, anti-glare IPS panel **Resolution** 3,840x2,160

Connectivity 1x HDMI 2.0, 2x DisplayPort 1.2, 1x DVI, 1x 3.5mm audio

Acer's 27-inch display has a Mac-like design with an aluminum frame and brushed-metal finish. The panel measures 20mm thick, while the border round the screen is a mere 6mm, so the desktop almost goes from edge to edge. Unfortunately, the monitor sits quite low, and you can't adjust the height. The buttons for the on-screen controls are tucked away under the right edge of the screen, which makes it tricky for navigating menus. The controls include useful options, though, such as preset modes for viewing graphics and video, and a blue-light filter designed to ease eye-strain.

We can't fault the image quality. The S277HK uses IPS (in-plane switching) to provide excellent all-round viewing angles, along with bold colors and strong contrast that make the most of the 3,840x2,160 resolution. The screen also boasts a glare-reducing matt finish.

The S277HK supports HDMI 2.0, so it can display a 4K image with a 60Hz refresh rate (note, though, that Macs can currently only display 4K video at 30Hz over HDMI). Fortunately, the monitor includes two DisplayPort 1.2 interfaces – one each for full-size DisplayPort and Apple's Mini DisplayPort/Thunderbolt connection – allowing the latest Mac Pro and MacBook Pro models to display 4K video at 60Hz (older models don't support DisplayPort 1.2). The built-in speakers work quite well, producing respectable sound quality and volume. There's a DVI port, but it's a shame there isn't a second HDMI, and the S277HK doesn't offer any USB hub functionality, either.

THE BOTTOM LINE. Connectivity could be improved, but the S277HK offers excellent image quality, making it an attractive option for any 4K-hungry Mac user. **CLIFF JOSEPH**

ACER S277HK

- ▶ High-quality 4K display
- ▶ HDMI 2.0 and DisplayPort 1.2
- ▶ Height isn't adjustable
- ▶ No USB ports

GREAT ■ ■ ■ ■ ■



Paste

A visually appealing clipboard manager

\$7.99 Developer Wirelessheads, pasteapp.me

Requirements OS X 10.9 or later

The lack of a proper, built-in clipboard manager remains one of the more elusive shortcomings of Apple's OS. Thankfully, Paste largely eliminates this pain point. Once installed in the Finder menu bar, Paste remembers everything you copy, tucking it out of sight for later use. With a keyboard command ($\text{⌘} + \text{⌘} + \text{V}$ by default), these saved bits of data can be recalled and pasted into the current application with or without styling, or sent directly to other apps and devices via OS X's share extension. The clipboard history appears on a scrollable row across the bottom, color-coded according to which application the item was copied from, and what type of data it contains. The magnifying glass icon (upper left) makes it easy to search text or application and file types by typing into a field at the top of the screen.

Paste isn't yet as convenient or robust as our longtime favorite clipboard manager iClip, which can be configured to spring into action from any edge of the screen. Paste also lacks a way to manually sort history items (although they can be deleted) or assign frequently used favorites, but is otherwise a useful addition to any power user's Mac utility belt.

THE BOTTOM LINE. Manages your clipboard history in style, though not the most full-featured solution. **J.R. BOOKWALTER**

PASTE

- 🔍 Visually rich clipboard manager for OS X
- 🔍 Search by text, application, or file type
- 🔴 History items can't be manually reordered
- 🔴 No option to save favorites

GOOD ■■■■■

ActionAlly

Alternative task management

\$37 Developer Nicky Hajal, actionally.com

Requirements OS X 10.8 or later

ActionAlly is about effective time management, helping you plan and execute tasks. At a set time each day, it'll prompt you to plan what you're doing the following day, including how and why tasks should be done. When the time comes, you fire up work sessions to define how long you'll focus on a given task, and choose whether you want to block a user-defined list of "distracting" websites (although this didn't seem to work during testing).

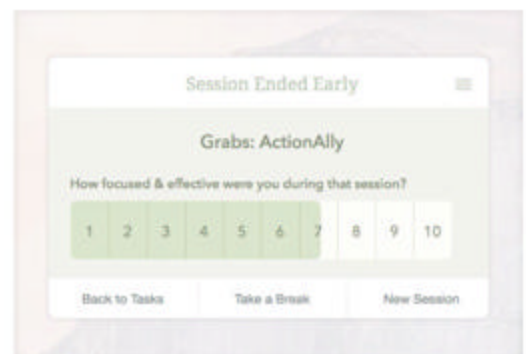
The interface is a floating window that covers the screen when you tap $\text{⌘} + \text{esc}$. Task setup is straightforward, but there's a touch of busywork and a lack of keyboard-only control, which doesn't feel efficient. The workflow model is at least interesting, and you get handy emails during your initial time with the app to help you make the most of everything. The seven-day free trial should help you discover if the system works for you, but we soon found ourselves returning to simpler Calendar lists and Breetime sessions.

THE BOTTOM LINE. An interesting take on task management that's worth investigation and offers value if it clicks with you. **CRAIG GRANNELL**

ACTIONALLY

- 🔴 Has you give reasons for tasks
- 🔴 Automated stats and analytics
- 🔴 Interface feels flashy, not efficient
- 🔴 No work/break timer loops

SOLID ■■■■■



Pagico 7

Get organized and productive, just like, uh, magico

\$50 (single seat, \$5 each additional) Developer N17, pagico.com

Requirements Mac OS X 10.7 or later



Pagico 7 features an excellent Dashboard, offering a wide variety of ways to view and act on all your current projects.

When it comes to getting things done on the Mac, there's no shortage of applications making bold promises about helping to keep us organized. Pagico 7.0 makes similar "be productive and stay organized" proclamations in its marketing, but actually delivers on those promises in a way few Mac apps do.

From a single database, you can create an infinite number of projects, attaching tasks, contacts, notes, and files between them; Pagico also supports multiple databases.

Using the built-in Workspaces feature (or more cumbersome manual Dropbox sync), Pagico can sync data to other platforms such as Windows and Ubuntu, or connected mobile apps for iOS and Android. The latest version also extends Pagico's reach to services from Google, Evernote, Microsoft, and others, thanks to integration with Zapier's cloud-based automation (think of it as a souped-up, subscription-based version of the popular IFTTT automation service).

The sidebar offers quick access to different categories including Dashboard, which is used to present the day's tasks vying for your attention, as well as a visual graph of the week, next six weeks, three months, or year. Switching to All Tasks presents the same information in an easier-to-digest list view, sorted by due date (if one has been set up).

Our only real pain point is that Pagico requires some amount of effort to get started. While schedule data and tasks can be exported to OS X's built-in Calendar app, it's not a two-way street. Likewise, there's no way to import existing colleague or client information straight from Contacts, other than copying and pasting into the database one field at a time.

By default, new tasks are automatically saved to the Inbox, or whatever project they happen to be created in. This is a big improvement over previous versions, which required you to dump everything to the Inbox and then manually move it to the required project. The new method also allows tasks to be assigned to multiple projects or contacts at once, via a popup that appears once you begin typing.

THE BOTTOM LINE. Pagico 7 asks a lot from you during setup of projects, tasks, and contacts, but makes up for that effort by delivering an affordable, robust database that actually helps. **J.R. BOOKWALTER**

PAGICO 7

- ▶ Inexpensive, all-in-one project database software
- ▶ Comprehensive Dashboard provides overview
- ▶ No direct import from built-in Contacts or Calendar apps
- ▶ Dropbox sync requires manual setup

GREAT ■■■■■



The biggest new feature in Pagico 7 is integration with hundreds of other cloud services, courtesy of Zapier.



Seagate Backup Plus 8TB

A drive with titanic terabyte technology

\$300 **Manufacturer** Seagate, seagate.com

Features SMR technology, micro USB 3.0 port with USB 3.0 cable

This is the first 8TB hard disk drive we've reviewed at *Mac|Life* and the biggest external (single-drive) hard disk currently on the market. It uses a new technology called SMR (Shingled Magnetic Recording) which allows the cramming of more bits on a given surface by using a similar technique to how roofers lay tiles. Drives that use SMR have one flaw – they do not perform well when it comes to sustained, random writes. They do however excel when it comes to sustained read speeds and burst write speeds, so they're ideal for backup.

Indeed, this is probably one of the fastest-writing external hard disk drives we've tested. It reached a fairly average 124MBps in sequential reads and a jaw-dropping 195MBps in sequential write. It comes formatted in NTFS, but comes with an NTFS driver for Macs you can install (or you can reformat).

THE BOTTOM LINE. Other than the SMR-related weakness on random writes, the Seagate Backup Plus performed admirably on our tests, achieving some remarkable numbers while keeping the price per TB fairly low. **DESIRE ATHOW**

SEAGATE BACKUP DRIVE 8GB

- 👍 Impressive performance
- 👍 Low power consumption
- 👎 Very "harsh" blocky design
- 👎 Lack of power button

EXCELLENT ■■■■■

Touro S 1TB

Good value, fast portable storage

\$64 **Manufacturer** HGST, touropro.com

Dimensions 3.1x4.5x0.5 inches **Weight** 5.3oz

This portable external 2.5-inch hard drive offers a 7,200rpm speed drive, faster than the 5,400rpm you usually get, and this does translate to faster speeds. Sequential read and write speeds came in above average; the drive scored 146Mbps and 133Mbps respectively. In exchange for that, the 1TB Touro S carries a premium compared to other slower-spinning 1TB hard disk drives. While that might not sound ideal on the face of it, the truth is that in reality it's only about \$10 more than a 1TB 5,400rpm equivalent. Is that a lot to pay for a faster drive? We think not if you've got the need for speed.

It is fast, although certainly not as fast as a dedicated SSD, but if you don't want to pay extra for the performance gain (we're talking nearly a 5x premium), then it's a pretty compelling offering that sits well between the budget options and the high-end performers. Our only minor complaint is that the case isn't quite as high-quality as we'd like.

THE BOTTOM LINE. The Touro S is a no-frills, straightforward external hard disk drive. It's fast, and while it costs more than 5,400rpm drives, that extra outlay is easily justified. **DESIRE ATHOW**

TOURO S 1TB

- 👍 It's fast
- 👍 Well designed
- 👍 3GB of online storage
- 👎 Enclosure could be better

EXCELLENT ■■■■■





Curvature

Can this simple sketching app compete with the masters?

\$4.99 Developer Stiefel Digital, stiefeldigital.com/curvature

Requirements OS X 10.10 or higher, 64-bit processor

With its simple, minimalist interface and its emphasis on what you're drawing, not how you're drawing it, Curvature aims to get back to basics and create a simple unfussy sketching app for the Mac.

It's optimized for use with a graphics tablet (although can work with a mouse too), and so has a pared-down menu to help increase screen real estate and minimize fuss. The app supports both stylus pressure sensitivity and multi-touch gestures from your drawing tablet, without any kind of setup required, so you can quickly and easily get drawing. Its Infinite Canvas feature gives you a limitless working space to draw in and key functions such as brush size, style and color are available via the "pucks" in the top left corner, where you can adjust values with a swipe of your stylus.

Unfortunately Curvature's relative simplicity may be too much for more demanding users. With only a handful of fairly basic drawing tools (line, triangle, and ellipse tools alongside a rather neat arc tool) so it is up to the pen and brush options to carry Curvature. However with only eight brush presets (ranging from solid shapes to charcoal, marker and pencil) these features are somewhat lacking. The developer tells us there are more on the

way, but the brushes currently lack complexity or sophistication and there no options to edit them into shape.

Despite its ease of use, results with Curvature are mixed. It may boast OpenGL rendering (for fast, fluid drawing in theory), but lines can be sluggish to appear, which is most apparent when you use the Shift Smoothing function - which is intended to eliminate any jitters in your line if you hold down Shift as you draw. Unfortunately, the longer you hold down your pen, the more the line redraws itself and you lose your start point along the way, costing you accuracy.

Curvature is very much an app in its infancy, and in a lot of ways feels more like a beta than a fully fledged release. Developer Stiefel Digital is releasing regular updates to fine-tune the app, which it needs if it is ever going to compete with established names like Adobe or Autodesk. Fortunately, thanks to its bargain \$4.99 price tag, Curvature is worth a try even at this stage, because despite its flaws. The intention to create a simple and stylish sketching app for graphics tablet users is admirable.

THE BOTTOM LINE. Curvature is more of a rough sketch than a fully realized work of art.
ALEX THOMAS

CURVATURE

- Minimal, unfussy interface
- Optimized for tablets
- Lacks tools and options
- Results can be erratic

OKAY ■■■■■



Parrot Bebop & Skycontroller

A drone that goes further

\$899 **Manufacturer** Parrot, parrot.com

Range 1.2 miles **Quoted battery life** 33 minutes **Camera** 1080p

The Parrot Bebop has some serious tech on board. In a body section that's just a few inches long you get a substantial battery and an 1080p video camera at the front, which also shoots 14-megapixel stills. It can be bought just as a drone, but here we're looking at the Skycontroller bundle, which gives you a traditional twin-stick remote control unit capable of generating its own Wi-Fi hotspot – enabling you to fly up to a claimed 1.2 miles.

The Skycontroller is a big unit, but you can secure an iPad or iPhone into the middle, giving you a live view from the Bebop's camera. Freeing yourself from the constraints of touch control (which you must use if you only have the Bebop) makes delicate flight adjustments a cinch.

The view from the camera has a slight frame-rate issue so you need to be pretty confident of the kind of area you're flying into. A forest flight, for example, is only likely to end one way if you're flying by live view alone.

It's fortunate, then, that the Bebop itself can withstand some pretty serious knocks, and the FreeFlight software reports back immediately on any loss of motor function. The only weighty component is the battery (lasting about 12 minutes in our tests), though its clip mechanism is too flimsy and likely to open by accident.

THE BOTTOM LINE. This drone/controller combo is one of the most accessible on the market and if you can afford it, you're set for some awesome aerial antics. **CHRISTIAN HALL**

PARROT BEBOP

- Incredibly easy to operate
- Fast, stable and fun to fly
- Poor battery life on drone
- Bulky Skycontroller unit

GREAT ■ ■ ■ ■ ■ ■



Microsoft Universal Mobile Keyboard

Yup, it even works with Windows...

\$80 **Manufacturer** Microsoft, microsoft.com/hardware

Connectivity Bluetooth **Weight** 12.9 oz
Dimensions 9.5x4.3x0.4 inches

When it comes to optional keyboards for the iPad or iPhone, we'd normally recommend keyboard cases as they fit snugly on your device and also provide extra protection. However, the Microsoft (continuing its run of giving the iPad solid support, from apps to accessories now) Universal Mobile Keyboard, with a detachable dock, feels just as useful.

It's fairly slim and has a nice rubberized coating, so throwing it in a bag alongside your iPad (or iPhone) does no harm to it at all – you just need to remember to take the thing with you. The dock element has two heights of groove that an iOS device can slot into, thus giving you two different viewing angles.

The dock looks flimsy but feels sturdy, although isn't all that comfortable. It also acts as the cover for the keyboard, as well as turning it on and off accordingly. If the designers had done the Apple thing of concentrating a little bit more on the typing experience, this would be nearly perfect.

THE BOTTOM LINE. A handy detachable dock with multiplatform appeal, but there's better typing action to be found elsewhere – look to Logitech for that. **CHRISTIAN HALL**

MICROSOFT UNIVERSAL MOBILE KEYBOARD

- ⊞ Can pair with up to three devices
- ⊞ Good and sturdy
- ⊞ Six-month battery life
- ⊞ Typing isn't quite good enough

SOLID ■■■■■

Drop Kitchen Connected Scale

A smart scale with a tasty app bursting with fresh features

\$99 **Manufacturer** Adaptics, getdrop.com

Connectivity Bluetooth **Weight** 10.5 oz
Dimensions 5.3x6.3x1 inches **Battery life** 1 year

Digital scales are *the* thing to have if you love to bake, and this compact iPad accessory transfers its digital display into an app. Connect Drop via Bluetooth to the free app, and you'll have a kitchen scale display on your iPad.

The Drop itself has a thick rubberized platform that feels very durable, keeps bowls steady and washes easily. You don't have to keep syncing it up, just tap the button on the front and off you go. On the bottom is a rubber grip that keeps it firm on the work surface. It's beautifully designed and is far nicer to look at than your average digital scale.

The Drop Kitchen app works brilliantly, offering more than 100 recipes, and ingredients can be rescaled based on what you have available.

THE BOTTOM LINE. A beautifully designed kitchen scale that doubles up as a helpful recipe-recalculating assistant. **CHRISTIAN HALL**

DROP KITCHEN CONNECTED SCALE

- ⊞ Fast and accurate
- ⊞ Clever recipe-rescaling ability
- ⊞ Compact and grips well
- ⊞ Early days for the social side

GREAT ■■■■■





Powerful beasts and spiritual awakenings await Nuna in the frozen wilderness.

Never Alone

A heartwarming journey across the Alaskan wilderness

\$14.99 **Developer** Upper One Games, neveralonegame.com

Requirements OS X 10.8.5, 1.7GHz Intel Core i5, 2GB RAM; Intel HD Graphics 4000 or better, 3GB HDD

Never Alone tells the story of an Iñupiat Inuit child's trek across the Alaskan landscape to find the source of a blizzard that's ravaging her village, with only an arctic fox for company.

Their journey is full of platform-based action and puzzle solving, with Nuna able to use tricks such as jumping in strong winds to cross chasms, and pull heavy objects to weigh things down. You can also switch to controlling the fox, which can claw its way up walls to reach things that are out of Nuna's reach. Progression unlocks videos which explain how the game draws upon Iñupiat cultural values.

The atmosphere built by the visuals and sound fosters genuine affection for the duo. It's heartbreaking to hear Nuna gasp or the fox's mournful whimper when the other falls victim to the world's dangers.

Messing up can feel like it wasn't your fault, but ample checkpoints keeps the story moving. The cost of this is the game's short length, which isn't helped by things just starting to get challenging around the halfway mark.

An experienced player can finish the single-player mode in about three hours, but Never Alone really shines when played with a young family member, each of you controlling a character, which reinforces the story's collaborative theme. The way you play isn't groundbreaking, but it's really just the vehicle for a lovely piece of folklore told in a modern way, with striking imagery.

THE BOTTOM LINE. Never Alone is really at its best when played with a partner. The game tells a beautiful short story with moral points to get kids thinking, too. **ALAN STONEBRIDGE**

NEVER ALONE

- ▶ Strong atmosphere
- ▶ Videos about Iñupiat culture
- ▶ Not much challenge
- ▶ Occasionally feels unfair

SOLID ■■■■

Kerbal Space Program

Lacking in graphical prowess, but there's a lot going on...

\$39.99 Developer Squad, squad.com.mx

Requirements Mac OS X 10.6 or later, Intel processor, 3GB memory, 512MB graphics, 1GB HDD

After years of being available on the developer's website and Steam Early Access, Kerbal Space Program has finally blasted off to a full release. [Part space sim, part sandbox management, Kerbal Space Program is extremely ambitious.](#) It's not jaw-dropping to look at, but that's easy to forget when you see the wide-eyed awe on the faces of your pilots as you launch.

Kerbal Space Program takes place on a planet similar to Earth, except its inhabitants are little green aliens sharing the last name "Kerbin." It's your job to build up the game's meager space program: managing employees, taking contracts, researching technology, and building aircraft and spacecraft, among other things. It's an overwhelming number of things to manage, so KSP offers three modes: Sandbox, which has no restrictions on inventory; Science, in which data is gathered and funds aren't an issue; and Career. Career Mode is the heart of KSP, starting you with very little money and not much inventory to build ships from. As you collect data, research new things, and conquer goals, you'll gain access to better parts, smarter crew members, and upgraded buildings.

Once you successfully build a craft and make it out of orbit into space (no small feat in itself) the space sim portion kicks in. It's up to you to control your ship, aiming for



If you can make it into orbit, the space sim element kicks in.

regions unknown, new planets, or getting into orbit. There are tutorials outside of the core game, but once you're in Career Mode there are no training wheels, and a more organic training process would have been helpful. There's a lot of patience required, and trial and error involved in just figuring out how not to blow up your ship and kill your pilot a few hundred meters in the air.

Even after years in development, Kerbal Space Program has its fair share of technical difficulties. Multiple freezes and crashes to desktop make it hard to progress, and less serious glitches are distracting. Despite these issues, there's definitely something engaging about it. You might find yourself building better spacecraft in your head when you're not playing, or saying "Just one more launch" over and over again.

THE BOTTOM LINE. A great blend of micromanagement and spaceflight, but it's marred by tech issues. **SARAH LEBOEUF**



There are three modes - in Career mode you get a small budget and a limited inventory to build your ship.

KERBAL SPACE PROGRAM

- Incredibly deep interaction
- Effortlessly combines management and simulation aspects
- Freezes and crashes aren't ideal
- Training is dull but necessary

GOOD ■■■■ ■



ASK

TECH SUPPORT & TECHSPLANATIONS



Make sure you know your VGA from DVI cables and adapters...

A SECOND SCREEN?

I have an Acer V223HQV monitor I would like to reuse as an external display for my 2012 MacBook Pro (Retina display). I've tried using a VGA to DVI adapter connected to a DVI to Thunderbolt connector but I get no picture. The monitor is detected in System Preferences, but the screen stays blank. Can this work?

Yes, but not with those cables; it's a slightly complicated situation. The Thunderbolt port on your MacBook Pro can output both analog and digital video, but when you connect it to the DVI-to-Thunderbolt adapter, only the DVI-D portion of the signal is carried, which is digital only. The VGA to DVI adapter plugged into that is expecting the DVI-A

(analogue) part of the signal, but receives nothing, because those pins aren't actually connected.

To fix this, you need a single Mini DisplayPort to VGA adapter. Mini DisplayPort uses the same connector as Thunderbolt and is backwards-compatible with it - you can use a Thunderbolt port to connect any Mini DisplayPort devices.

Apple sells these adapters for \$29 but there are clones on Amazon for around \$9. Connecting a VGA monitor to a Retina MacBook isn't going to give you a fantastic picture, though. The signal is converted from digital to analog, then back again, and simultaneously downscaled from Retina resolution to whatever the monitor supports. At the very least expect small fonts to look somewhat blurry.

The real hard truth about Mac security

In issue 102 you advised a reader that they didn't need security software.

For someone writing for an well-established magazine to be naïve and blinkered enough to believe security software isn't needed is utterly deplorable. Macs are just as prone to attacks from viruses, malware and security holes as PCs. Have you forgotten the recently exploited NTP, OpenSSL, WebKit, RSA (FREAK) and numerous others? How about the increasingly large number of malicious viruses and malware being developed and deployed for OS X? Security is NOT sticking one's head in the sand!

It's definitely good to be vigilant about security for our Macs. However, third-party security software wouldn't have protected OS X from any of those vulnerabilities you mention. All of them were security flaws discovered by researchers and patched soon afterwards by Apple. Kaspersky or Norton Antivirus



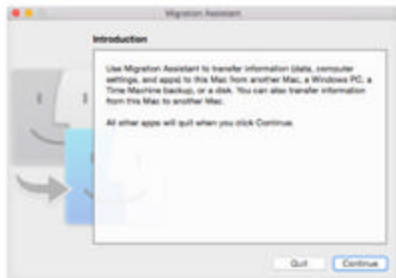
OS X wasn't affected by the Heartbleed bug because Apple had already replaced the vulnerable OpenSSL library.

can't provide any extra security there. We're also not aware of any OS X viruses that are actually present out there "in the wild" – just some proof-of-concept viruses developed by researchers.

Since Snow Leopard, OS X has had its own built-in malware scanner that checks file downloads against a database of known trojans and malware. We are yet to be persuaded that any third-party security software adds any real benefit for a Mac user.

Setting up a new Mac

I've just ordered a new 27-inch iMac to replace my Mac mini. My current mini is loaded with all my apps and content. Where do I stand with apps I've paid for such as Word, Excel and Parallels? Will they be transferred via Migration Assistant? I'm worried I'll have to purchase more product keys if I start moving these across?



If you don't use Setup Assistant you can run Migration Assistant to move apps and data to a new Mac.

Relax, you're fine. When you turn on your new Mac, the first thing you'll see is the Setup Assistant wizard that will walk you through the process of transferring everything from the old Mac or a Time Machine backup. Paid-for apps will transfer just fine and so will everything else, unless you have some weird app that ties its license to the Mac address of your network card or similar. We're not aware of any such apps though.

What is re-balling and does it work?

I'm near the point of throwing my 2009 MacBook Pro off the end of a

> Did the security update kill my email?

Both my iMac and MacBook Pro running Yosemite 10.10.2 aren't receiving all my emails, although my iPad and Windows PC are. When I open Mail it can be hours before emails arrive, and then all in one slug.

I get the triangle with the exclamation point, suggesting that I'm disconnected from the internet, and the "unread emails" number showing – although I've read every email on the screen.

Now, two days after this started, the MacBook Pro is not receiving any emails at all. This all started after I received Security Update 2015-002 Version 1.0 – could that be the problem? Any help?

We don't really have enough information to be sure whether this was caused by the security update, but it does sound like a Yosemite bug. Apple thinks so too, because it posted a support page entitled "Mail (Yosemite): If you can't receive messages" (see <http://apple.co/1P5SXfQ>). It's a list of the

obvious first things to try. This is what Apple does when it has a rare bug developers can't reproduce. The page is designed to filter out things that could cause the same symptoms, in the hope people who submit a bug at apple.com/feedback/mail.html can provide hard data. So do submit your report to help them out!



Sending feedback to Apple whenever you encounter a bug will help vote that particular problem to the top of the queue for fixing.

pier. It started having screen glitches and random "lock-ups," which apparently are the symptoms of the Nvidia graphics problem. I also found it would refuse to boot up fully (the progress bar would get about a quarter way across, pause, and then reboot continually). Apple quoted me \$600 to have a new logic board fitted, so instead I went to an independent repairer to have the graphics processor re-balled. I have spent \$130 on a "re-balling" repair plus another \$60 to have a new graphics processor fitted.

After the first repair the graphics seemed OK, but the rebooting problem still occurred randomly. That's when it went back for a new Nvidia processor

to be fitted. For about two weeks it behaved flawlessly until on a cold day I got it out of the trunk of my car and took it with me to a coffee shop. You guessed it... it just continually rebooted, making it unusable! I don't suspect Yosemite, because I've found it still exhibits this fault when trying to boot from an external HDD loaded with Mavericks.

Re-balling involves desoldering a chip from the circuit board and applying a new grid of tiny solder balls to the underside to reattach all the pins. Theoretically it can fix problems with dry solder joints, but in practice it's not something we recommend. Screen glitches and random crashes could





Dust gets sucked into your iMac through the air intakes, so be sure to give them a clean now and again.

>>> indicate a fault with the graphics chip, but there could equally be a fault with one of the other chips on the motherboard, or one of the etched tracks on the circuit board itself. Also, the re-balling process involves applying a lot of heat to the whole motherboard, which stresses chips and can cause other connections to fail.

Now that you have already paid out, it might be tempting to persevere with other repair options, or even pay for a new motherboard. Our advice, though, is to eBay the MacBook Pro as “for parts or not working.” You should get at least \$100 for it and you can put that towards a new laptop.

After all, five or six years is a respectable lifespan for a laptop, and there comes a point when you are just throwing good money after bad.

What does Memory Pressure actually mean?

I use a 2009 27-inch iMac, with 4GB memory. It's been rather slow since installing Mavericks. The 1TB hard drive was only 20% full, so I suspected something to do with memory. Sure enough, Activity Monitor showed that memory used was usually about 3.95GB of the 4GB available, despite Memory Pressure being in the low green. I upgraded to 8GB and find that memory used has gone up to around 7.95GB, with Memory Pressure still a low green. Can you explain please?

When you open an application in OS X it's loaded into free RAM. The other open apps are left in memory, even if they aren't being used. Once you get to the point where there isn't any free memory left, the OS starts actively

managing the memory in use. Initially it will request that apps dump unneeded data and it compresses the data in memory pages that haven't been accessed for a while. When it's doing this, the Memory Pressure graph shows yellow. If that isn't enough, memory pages will start getting swapped out to the disk and the graph changes to red.

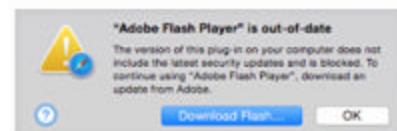
Unless Activity Monitor consistently shows Memory Pressure in yellow or red, adding more physical RAM won't help. On a six-year-old Mac, it's more likely that the graphics chip and CPU are lagging behind the requirements of modern apps.

It's also possible that dust has built up inside and the iMac is running hot. This can cause the CPU and graphics to throttle their own performance to keep the temperature within limits. If your fans are normally running full blast, consider opening the case to do some cleaning.

Mysterious warning

A pop-up message keeps appearing and say something about something not being supported and will end soon. As this is a rare pop-up message, I don't ever get time to finish reading it.

In all likelihood, you don't need to worry about this. It's probably just a warning from an app that you are using an old version of something and the developers will soon no longer be supporting it. Pop-up messages normally wait for you to click OK before they close, but you can always hit $\text{⌘} + \text{⌘} + \text{3}$ to capture a screenshot, which is saved to your desktop.



Any pop-up warning worth its salt will wait for you to acknowledge it.

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CREATE

HOW TO DO ANYTHING ON YOUR MAC, IPHONE & IPAD

Customize the Finder sidebar

Be more efficient by making use of Finder shortcuts and searches

REQUIRES

> OS X 10.10 (although most steps work with previous versions)

LEVEL

> Easy

IT WILL TAKE

> 10 minutes



AT SOME POINT we'll be able to verbally tell a Mac what we want to work on or with and it'll quickly serve the respective document or app. In the meantime, we must make do with manual searches via Spotlight, or use a file manager.

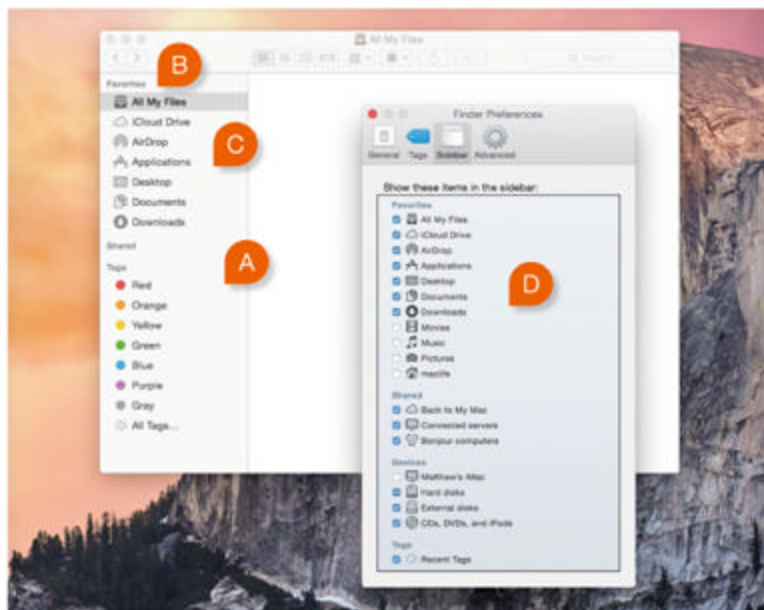
Finder is an app built into every Mac for rummaging around your drive (and beyond) and it can be customized a little. One area that can be bent to your will, for example, is the sidebar.

This is initially populated with shortcuts Apple has determined most Mac users will require, including All My Files, Applications and

Documents, but as our walkthrough shows, you can add your own. Also, some applications – such as Dropbox – provide direct integration with Finder and add shortcuts, although these can always be removed.

Folders in the sidebar work as they do elsewhere in Finder, meaning you can drop items into them. This makes the sidebar a handy place to temporarily house a folder shortcut if you plan on moving a lot of documents to it; it's typically faster to drag documents to the sidebar of any Finder window than to a specific Finder window or Dock shortcut. **CRAIG GRANNELL**

Quick look Finder's sidebar



A The sidebar

By default, the sidebar appears at the left-hand side of all Finder windows, providing single-click access to folders, mounted media, shared computers and tags.

B Sidebar groups

Items stashed in the sidebar are grouped into categories: Favorites, Devices, Shared and Tags.

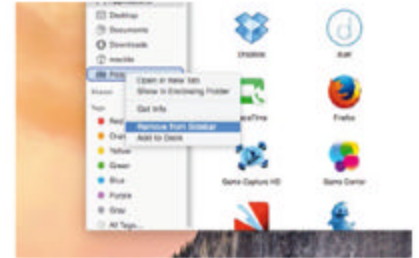
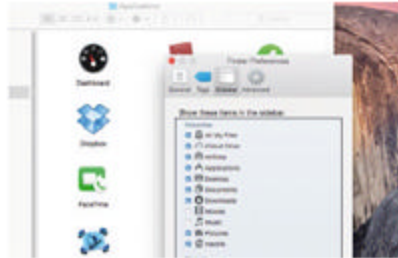
C Sidebar items

You can store custom items under Favorites. Folders and searches are the best things to place there.

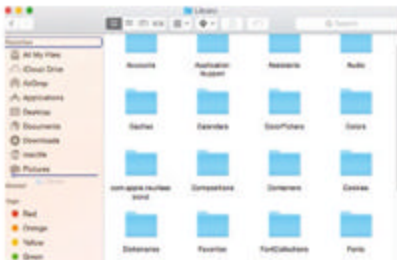
D Preferences

Adjust what's shown in the Finder sidebar with its Preferences, including individual folder options.

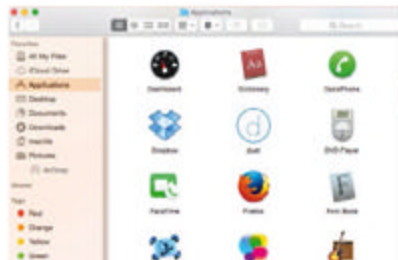
How to Master the Finder sidebar



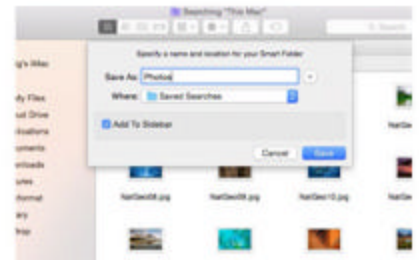
1 Understand basics
Firstly, the sidebar can be hidden. App install windows often hide the sidebar, for example. View > Hide/Show sidebar ($\text{⌘} + \text{⇧} + \text{S}$) toggles its visibility. Select a sidebar item and it loads relevant items into the window.



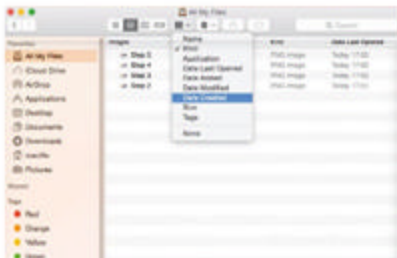
2 Show groups
Go to Finder > Preferences and choose Sidebar. You'll see items grouped into Favorites, Shared, Devices and Tags. Checking an item adds it to Finder sidebars; deselect an item and it will, unsurprisingly, be removed.



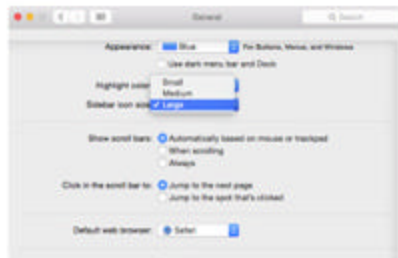
3 Add/remove items
For quick access to a folder not shown in Finder's preferences, select it and use File > Add to Sidebar ($\text{⌘} + \text{⇧} + \text{T}$), or drag the folder into Favorites until a horizontal line appears. To remove it, right-click and click Remove from Sidebar.



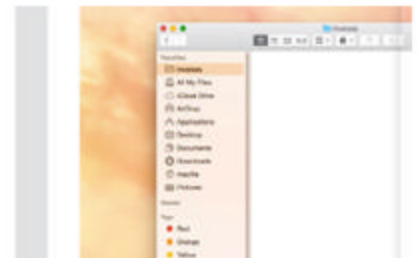
4 Access hidden folder
Your user Library folder is hidden by default, but can be added to Finder's sidebar. Hold ⌘ and go to Go > Library. Ensure the Finder path bar is visible (View > Show Path Bar) and drag Library to the Favorites section of the sidebar.



5 Manage the sidebar
Add too many items and the sidebar becomes cluttered and requires scrolling, so prioritize. Delete unused items and click-drag to move key ones up. Categories can be dragged via their titles, or collapsed by clicking the Hide button.



6 Save a search
In any Finder window, press $\text{⌘} + \text{F}$ to load the search view - results can be restricted to a folder or your entire Mac. Define results criteria and click Save. In the sheet that appears, check Add To Sidebar and click Save.



7 Use All My Files
All My Files is a smart search that groups your files, initially by type and in reverse chronological order. The folder's view and item arrangement can be adjusted via the toolbar and it will remember changes when reopened.

8 Enlarge everything
Sidebar items can be resized. In System Preferences, click General and set "Sidebar icon size" to Large (this may affect other apps.) Third-party utility XtraFinder (trankynam.com/xtrafinder) adds sidebar color.

? SHAVE OFF THOSE PRECIOUS SECONDS

Changes made to Finder's sidebar are reflected in Open and Save dialog boxes. Placing frequently accessed folders near the top of the sidebar is a time-saver.

Maintain your Mac with OnyX

Access hidden features of OS X, maintain and clean your machine

REQUIRES

> OS X 10.10, OnyX 2.95

LEVEL

> Hard

IT WILL TAKE

> 30 minutes



THINK OF ONYX as a Swiss Army knife for your Mac. It incorporates a number of tools which allow you to carry out maintenance and cleaning, verify your startup disk and file structure, and access hidden parameters so you can customize how the OS and many of its included applications work. OnyX incorporates two other tools from the company, Maintenance and Deeper, so if you use OnyX, you won't need these. If you only want customization options, and find the interface of OnyX intimidating, Deeper is more straightforward.

The good news is that all three applications are free to download and use. The bad news is that documentation and support is very limited. That's where we come in. Over the next couple of pages, we'll show how you can use OnyX to make sure your Mac runs smoothly all the time and that you have it set up just the way you want it.

A word of warning: OnyX can't destroy your system, but things you do with it may produce unexpected results, including moving or deleting files. Back up first! **KENNY HEMPHILL**

Quick look Parameters pane

A

The menu bar

The menu bar is split by type of job. The customization functions are all in Parameters.

B

Tabbed sections

Each group is further divided into tabbed sections. Tabs denote the application or OS function being customized. The number of options in each section varies widely.

C

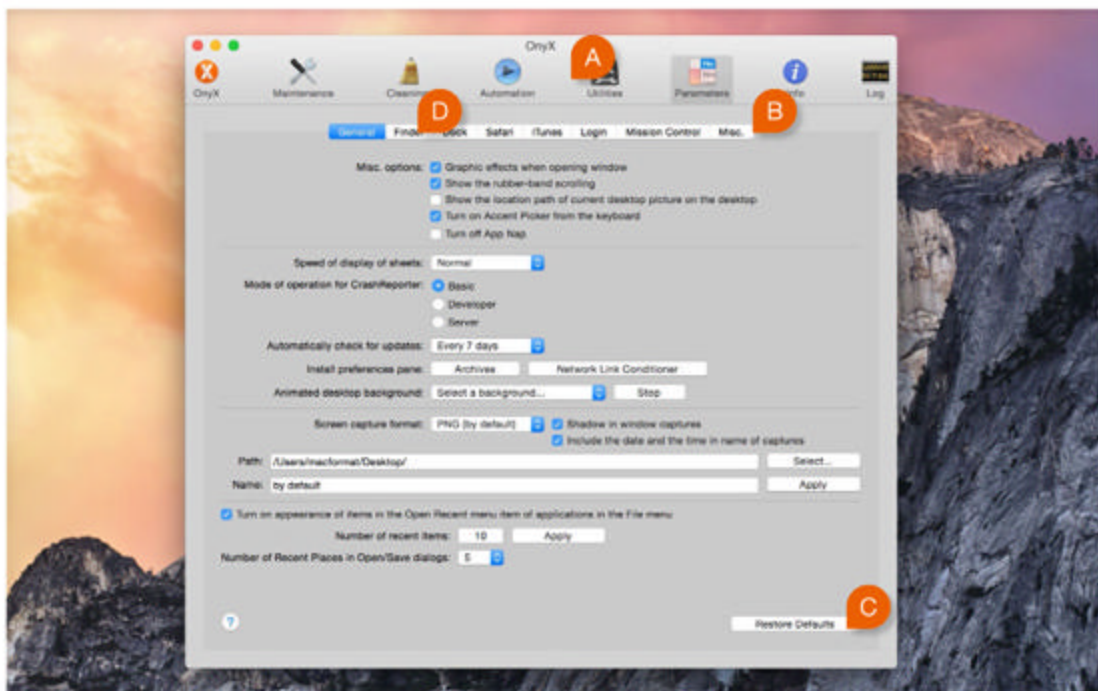
Restore Defaults

The Restore Defaults button is your friend. If your Mac starts to behave unexpectedly, press it to put things back the way they were and problems should hopefully disappear.

D

Finder reboot?

Depending on what you ask it to do, OnyX will either make any changes immediately, need to restart Finder, or even take over your Mac for a few minutes.

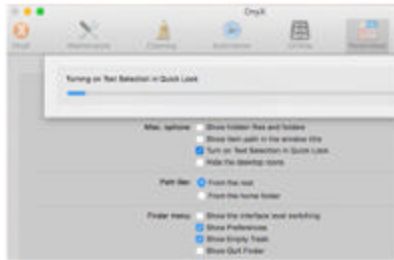


How to The best ways to use OnyX



1 Dashboard

Remember Dashboard and its widgets? It's still here, but it's switched off by default. To switch it back on, click Parameters, then the Mission Control tab. Now click on the box next to Dashboard. Click Continue; OnyX restarts the dock.



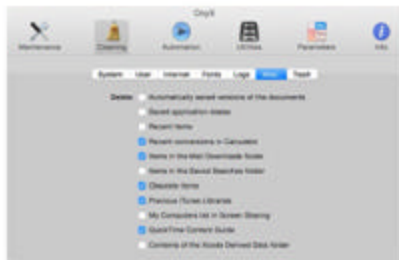
2 Quick text selection

Want to select text directly when performing a Quick Look on a text file? Go to Parameters, then Finder and look down the list for "Misc. Options." Check the "Turn on Text Selection in Quick Look" box.



3 Hide any folder/file

If you share your Mac, you may want to hide a file or folder from view. Go to Utilities and click the Visibility tab. Now click "Hide File" or "Hide Folder," then Continue, then select the file or folder. You can always make them visible again.



4 Delete attachments

The Mail Downloads folder can fill up with attachments and take up disk space. To empty it, click Cleaning, then the Misc tab. Check the box next to "Items in the Mail Downloads" folder. Now click Execute.



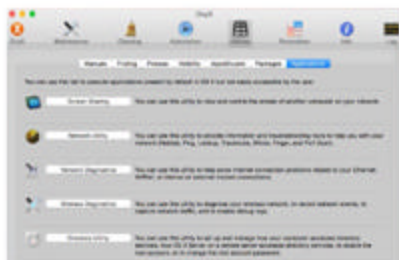
5 Stop icons bouncing

Do you hate the way icons bounce up and down in the dock when you launch an application? Stop their needy dances by going to Parameters, then Dock. Uncheck the box in the Graphic Effects section, next to "Opening applications."



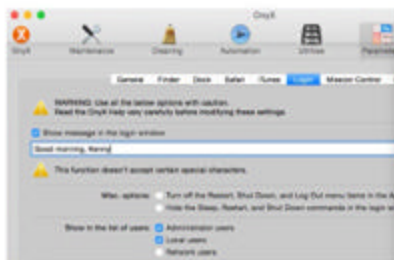
6 Screen captures

Taking a screengrab results in a PNG file, named "Screen Shot..." appended with the date and time. You can change all of that in Parameters. Go to the General tab, then the Screen Capture section, and choose the options you want.



7 Find elusive utilities

OS X has lots of Mac maintenance tools, but they're tucked out of view. Click "Utilities" then "Applications" to show them. Only use Directory Utility and System Image Utility if you know what you're doing.



8 Show login message

Set a message to display when you log in to your Mac. In Parameters, click the Login tab. Check the "Show message in the login window" box and write your message in the box (keep it clean!). Click Apply.



APPROACH WITH CAUTION

There are so many options available in OnyX that you'll probably either be tempted to click around randomly and see what happens, or be too terrified to touch anything at all. We think the best approach is somewhere in between – exercise some caution initially and try to gain a good idea of what something does.

Beam Keynote to Apple TV

Show your iPad presentation on Apple TV - with real-time annotations

REQUIRES

> iPad, Keynote for iPad, Apple TV, television or projector

LEVEL

> Easy

IT WILL TAKE

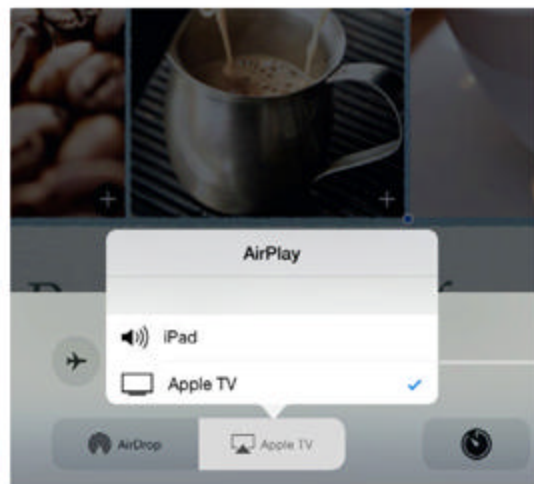
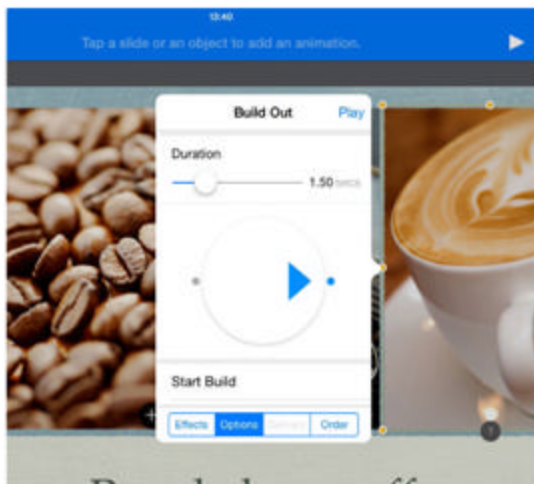
> 15 minutes



KEYNOTE IS AN app particularly well suited to iPad. The landscape screen orientation and ease with which you can enter and edit text, pictures and transitions mean it's perfect for working on presentations even when you're on the move.

With Keynote for iPad, plus an Apple TV, it's even easier, with no compatibility issues to worry about. The Apple TV itself is very portable, much more so than a projector. The two devices need to be on the same wireless network, though you can create an ad hoc one from a laptop or phone if necessary. The Apple TV will need to be connected to a TV or perhaps a projector to work this way.

The trick is to activate AirPlay Mirroring on the iPad to the Apple TV. Thanks to the way Apple has built the app, this won't merely mirror the screen but will actually send a specially configured signal to the Apple TV and display your presentation correctly on the big screen. **HOLLIN JONES**



TOOL SCHOOL

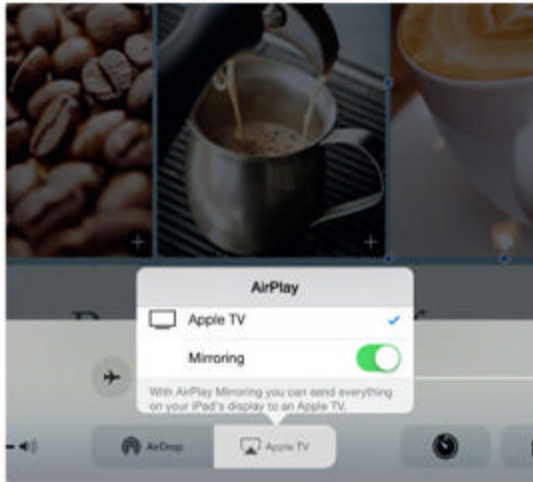
The app only works in landscape mode when you are creating your Keynote presentation, and this is the same for the content that you beam to the Apple TV. During presentation, however, you can switch the iPad to Portrait mode to show more content at the same time on your device.

1 Create your presentation

Build your presentation in Keynote for iPad. Naturally you'll want to test it before it goes in front of an audience, so you can use the play controls at the top-right corner of the screen to run it locally on the iPad. Any object or text can be tapped on to edit, move or add transitions. You may also want to export a Keynote project from your Mac or open it directly from iCloud on the iPad using Handoff.

2 Activate AirPlay

On your Apple TV, go into Settings and choose the AirPlay option. Make sure AirPlay is enabled and create a password. In the home, this might not be necessary, but in a public venue it's a good idea, to stop anyone hijacking your AirPlay feed from their own device, even by accident. On the iPad, swipe up from the base of the screen to open Control Center, tap AirPlay and you should see the Apple TV.



JARGON BUSTER

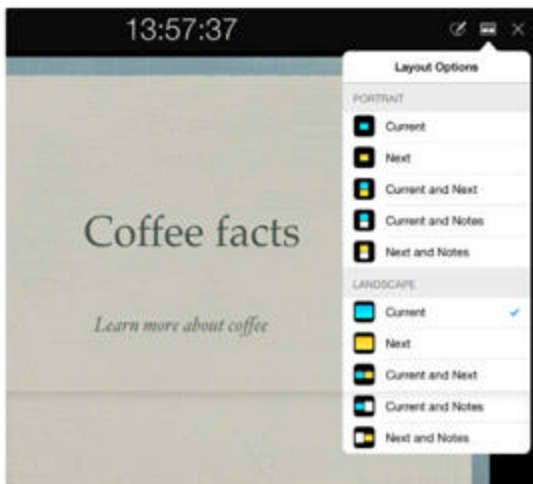
Mirroring usually means sending an exact replica of your iPad or iPhone's screen to the Apple TV. Some apps, however, can send a specially modified version of the signal to display just a video stream, or something similar.

3 Mirror the signal

If you have set a specific name for the Apple TV it should appear, but it may just be called Apple TV. Stay in the pop-up menu and scroll it down a little. You will see an option called Mirroring and you need to activate this by tapping it. This tells iOS to send the whole output of the iPad to the Apple TV. In this case, Keynote is designed so that it will know to display your presentation in the correct format.

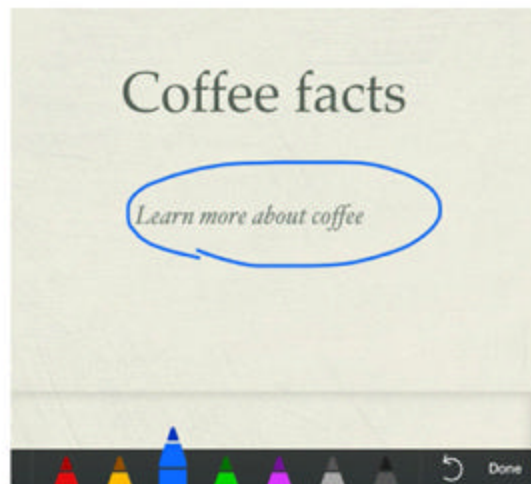
4 Play the presentation

You should now find that your iPad screen is displayed via the Apple TV on the big screen to which it's connected. It's only when you play the presentation using its Play button, however, that it will become fullscreen on the Apple TV, so it's worth only switching the main screen on when you're ready to present. Tap Play and the presentation begins. You even get a handy time display at the top.



5 Modify your view

Helpfully, what Keynote displays on iPad and the Apple TV can be different. The Apple TV will always show the presentation, whereas the iPad can show you different views such as the next slide, notes and even alternate orientations, so you can use the iPad to keep track of where you're up to without showing that to your audience. This is really useful and means you can do away with reams of paper notes.



AN AD-HOC NETWORK

If you are presenting in a public venue it's likely there could be no wireless network, or at least none that you have access to. In this case it's quite possible to use any Mac or iPhone to create an ad-hoc network complete with password. On the Apple TV and iPad, join this network and everything should work fine.

6 Annotate slides

You can make annotations in real time. Tap the pen icon in the top-right corner for a selection of colored pens to draw on slides with. The pen symbols are not shown on-screen but the results of drawing with your finger are. It's a useful way of emphasizing points mid-presentation without going back into edit mode. Annotations can be quickly removed with the Undo icon next to the Done button.

Publish blogs with Blogsy

Easily manage multiple types of blog from an iPad

REQUIRES

> iPad, Blogsy, WordPress site

LEVEL

> Medium

IT WILL TAKE

> 1 hour

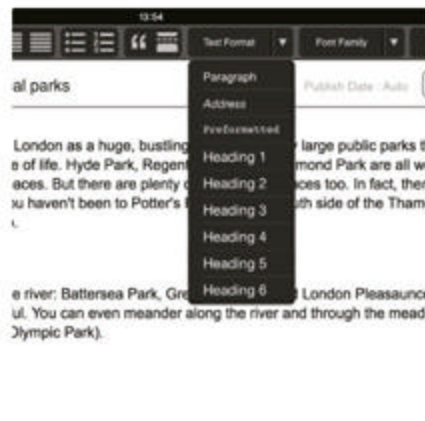
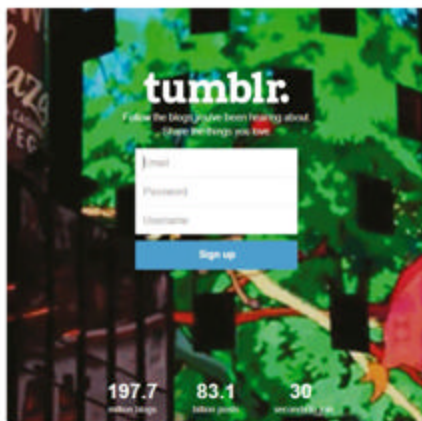


BLOGSY (\$4.99) is a blog-writing app that you can use to write, format and post articles to one or several blogs at once. Unlike word processing documents and apps, Blogsy's interface is specifically geared towards blogging. It even turns your iPad keyboard into one with HTML tags. Blogsy has rich text, HTML and text-based formatting tools and a preview button to check posts before publishing.

If you have several blogs – even on different blog-publishing platforms – you can create a post and publish it with ease. Blogsy works with WordPress, Blogger, Tumblr, Movable Type,

Joomla, Drupal and Squarespace. As well as publishing posts to any of these, you can upload photos to Facebook, Flickr and Instagram. Blogsy takes a drag-and-drop approach to adding photos, videos and links. Just drag them across from the built-in browser. If you've ever used WordPress, you'll know that adding visual content involves uploading it to a media library first and then linking to it in your post. Blogsy lets you add content to your site with a flick of your finger – just tap and hold your finger on a photo and then drag it to a special envelope where it's uploaded to the relevant blog. You can do this for photos you find online too. **ROSIE HATTERSLEY**

UNLIKE WORD PROCESSING APPS, BLOGSY'S INTERFACE IS GEARED TOWARDS BLOGGING



1 Set up a blog

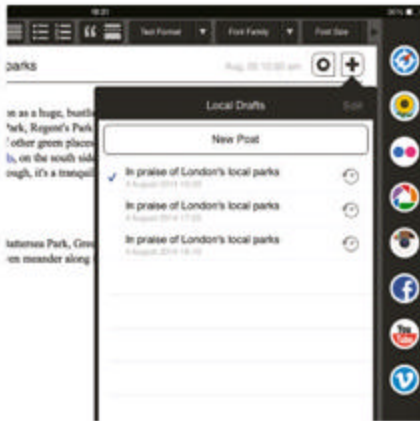
Blogsy isn't a blogging platform in its own right, so you'll need to sign up for a free account at one of the blogging sites like WordPress, Tumblr or Blogger. Tumblr is the simplest of the three and is good for short posts with photos, though you can also create photo-based blogs on the other blogging platforms. Blogger is handy if you already use other Google services. WordPress has the most designs and more advanced tools.

2 Create your first post

Blogsy opens to a blank page with formatting tools at the top and icons for familiar social media sites such as Flickr and YouTube on the right. To start your blog post, first overwrite the word Untitled in the title bar at the top. As soon as you tap in the title bar, the iPad's keyboard will appear. The blog title will become part of the web address for your post. Use a straightforward title because it means search engines are more likely to find your posts.

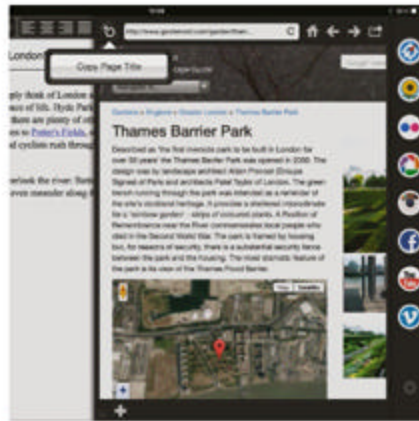
3 Format your blog post

Write your blog post in exactly the same way you would on your regular blogging platform. Start by typing what you want to say and then add formatting afterwards. Tap and select words to format, then apply bold or underlining from the top menu. If you highlight a word in a paragraph or just have your cursor there when you change the Text Format option, the whole paragraph will change. To undo any changes, tap the back arrow at the top left.



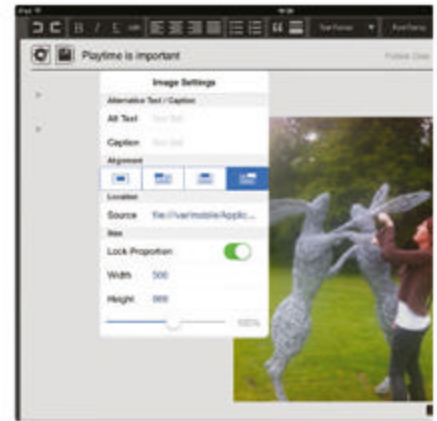
4 Multiple versions

Blogsy will autosave your work as you go, but you should also periodically tap the floppy disk icon to manually save your post. This saves a new version of your post. You can see all the locally saved versions of your drafts by tapping the + sign on the right of the title bar. Should you want to revert a major change or use a different version of the same post on a different blog platform – you can. Just tap the version of your blog you want to use.



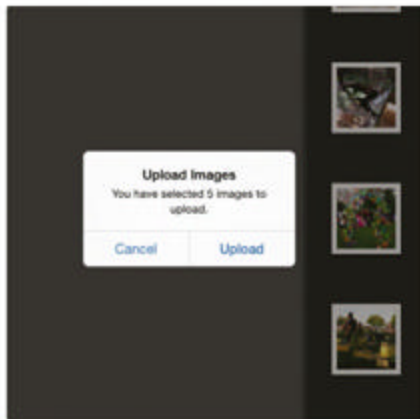
5 Add links to your blog

To add links to a post, go to a web page, copy the web address then highlight the link text in your blog by dragging over it. Tap Link and paste your URL into the Link URL box. Blogsy simplifies this with its own browser link (the compass at the top of the menu on the right). Navigate to the web address you want then tap the button to the left of the address field to copy the link. You can change the browser home page in the Settings > General > Home Button menu.



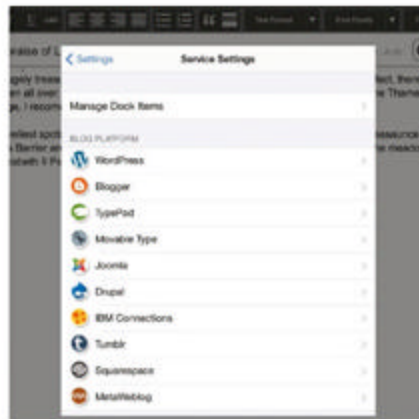
6 Add photos to posts

Tap the flower icon to start adding photos to your blogs. Blogsy will request access to your iPad photo library. Tap OK. You'll now see thumbnails of your various photo albums and options. Drag your photo to where you want it to appear in your post. If necessary, use the rotate options to make sure it's the right way up. Double-tap the image to open its settings menu. Set its position on the page and its size. Use Lock Proportion before resizing.



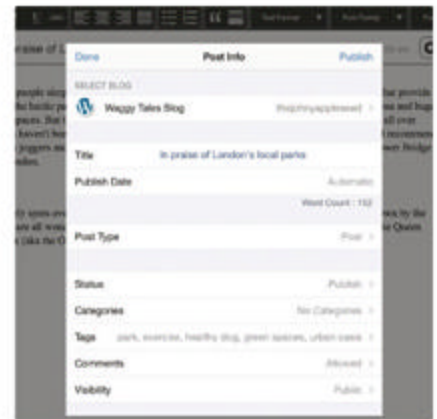
7 Send iPad images

You can add individual iPad photos to Blogsy posts or you can add them to a central library from where you can add them to your posts, even if you aren't blogging from your iPad. Tap the flower photo icon then the word Direct. The word Direct is then replaced by Envelope. An Envelope for each blog account you've added to Blogsy appears. Drag photos into the Envelope and tap Upload. These photos also now appear on the right of the screen.



8 Assign posts to a blog

Once you've finished writing your blog, you'll want to publish it. If you've already got the relevant app on your iPad, just tap its icon on the right of the Blogsy screen and tap OK to allow Blogsy to use it. If you aren't already signed into the service you want to use, type your username and password and Log In. It's easier to go to Settings > Service Settings then select services to sign in to if you want to publish to multiple accounts.



9 Tag and publish

To publish, tap the cog icon and select the blog it is to be posted to. If you don't want the post to be published immediately, tap Publish Date and use the scroll wheels on the calendar to set the time and date, then tap Publish > Done. Tap Labels to tag your post. Blogsy has access to your existing blog, so it can show you the tags you've used before. This is handy if you use a tag cloud or display tags for visitors to use as a search mechanism.

Get to know Gatekeeper

Keep your Mac even more secure with Gatekeeper's security checks

REQUIRES

> OS X 10.10

LEVEL

> Easy

IT WILL TAKE

> 10 minutes



BECAUSE IT'S DESIGNED to accommodate multiple users, easy networking and always-on connections, OS X is generally very secure. Other users (and outsiders) have only the level of access that you grant them.

However, this can be both a strength and a vulnerability, in that you could be fooled into giving a rogue user or application access privileges. This is what happened with the Flashback Trojan in early 2012.

To stop this kind of thing happening again, Apple introduced an extra layer of security called Gatekeeper, which authenticates apps and stops software from unknown sources running.

You can set Gatekeeper to one of three levels. The most secure permits only software that's been downloaded from the Mac App Store to

install and run. The next level includes software from known sources in addition to the App Store, as verified by Apple. Finally, you can set Gatekeeper to allow software that's come from anywhere. This is the least secure, but may sometimes be necessary for some software.

You can manually exclude a specific application from Gatekeeper without needing to lower your security generally. To do this, right-click the program's icon and select Open from the context menu. Click Open again. If necessary, provide your username and password. This overrides the normal level of security provided by Gatekeeper and enables the software to run or install.

If you try to run software that doesn't match your Gatekeeper settings, you'll get an alert and won't be able to run it unless you change your settings or open it as an exception. **JOE CASSELS**

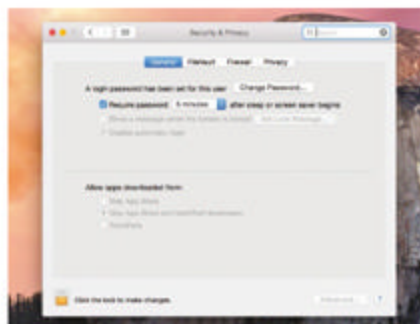
GATEKEEPER AUTHENTICATES APPS AND STOPS SOFTWARE FROM UNKNOWN SOURCES RUNNING

How to Configure Gatekeeper



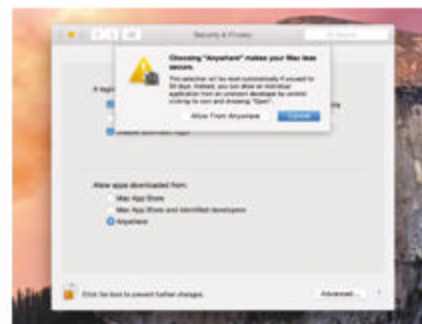
1 Security and privacy

Gatekeeper enables you to keep your Mac more secure by restricting what software can run on it. To configure Gatekeeper, go to **Apple > System Preferences** and then select **Security & Privacy**. When the pane opens, click the **General** tab.



2 Unlock changes

Before you can make any changes to the security options on your Mac, you need to unlock them. Click the padlock in the bottom left of the window and enter an administrator username and password when prompted. This removes the lock.



3 Pick and choose

You can now pick what types of apps are allowed to install and run. For the utmost safety, allow **Mac App Store** apps only. For greatest flexibility but least security, choose **Anywhere**. Click the padlock to lock these changes.

MacLife

MAC

IPHONE

IPAD

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RANDOM APPLE MEMORY

PowerBook 5300

It may have been a technical failure, admits Adam Banks, but this explosive portable made the Mac a movie star



Apple product placement in TV and film is now ubiquitous - but the PowerBook 5300 was first.

COSTING BETWEEN \$2,300 and \$6,800, with a choice of grayscale or color screens, 1995's PowerBook 5300 should have ushered in a new era of computing power thanks to its fancy PowerPC chip - the result of a collaboration between Apple, IBM and Motorola.

But it didn't. The problems began with its compact case, whose clever hot-swappable drive bay was too small for a CD-ROM drive. The plastic chassis often cracked around the hinges, glitching the display. The innovative lithium ion batteries, made by

Sony, had to be replaced with conventional NiMH cells after early PowerBooks overheated; at least two caught fire.

Users didn't even see big performance gains in compensation. Although PowerPC would ultimately live up to its promise, the 603e chips used in the 5300 were much slower than expected. Nothing could rescue the 5300's flawed design, but Apple's consumer perception was about to find an unlikely savior: its marketing executives had begun working with movie studios to make hardware available to set dressers.

One of the first placements was in *Independence Day* (1996). In a sequence reprised by an Apple TV commercial, scientist Jeff Goldblum rattles away at the keyboard of his PowerBook 5300 to upload a virus to the alien mothership, which promptly explodes, giving one of the worst ever Macs one of Apple's best taglines: "The power to save the world."

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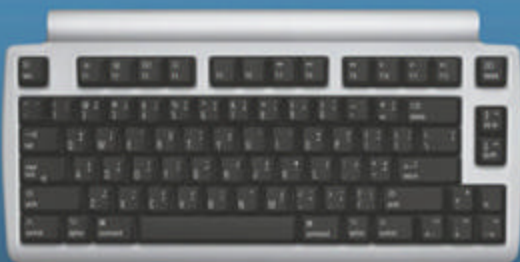
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